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THE HEADQUARTERS OF THE MINING INDUSTRY.

Visitors find here files of a great number of papers from the mining districts of this and other countries, and books of reference which can be consulted for information on any question in which they may be interested. They can have their letters addressed in care of "The Engineering and Mining Journal," P. O. Box 1833, New York, and will find in the headquarters every convenience for correspondence.

The large increase in the shipments of silver from San Francisco to the East, shown in another column, indicates that a growing proportion of our silver product is taking this direction instead of passing through the London market. The demand from China has been large, and the exports of the white metal to that country have this year amounted to $11,780,061 against $4,364,381 to the corresponding date last year. On the other hand, the exports to Japan fell from $4,873,434 last year to $645,794 last year. Even the latter reduction leaves a net increase of $3,186,908 in the shipments this year, which partially accounts for the reduction which has been shown in those from London.

The crisis in the London and Paris markets for the South African gold mining stocks which threatened this week, according to the cable despatches, seems to have passed over for the present. Possibly it was not really as threatening as some speculators wished. At any rate the partial reaction caused by the monthly settlements on those exchanges has been followed by a rise almost equivalent to the amount lost, and the flooding of the market with new companies continues with undiminished activity. We have already called attention to the over-inflation and the dangerous point to which speculation has been carried, and it is evident that the danger of a crash must increase with each successive settlement on the exchange. The crisis has been postponed, but not averted.

The general advance in pig iron rates which the railroads have arranged took effect this week. It has had no immediate effect on prices, however, as the immediateemand for iron has been in great measure met, and the supply now offered from the active furnaces is so large as hardly to permit a further rise. It must be said at the same time that the greater output seems to be fully taken up, and that there are no indications of a fall. The increase in railroad rates has been expected for some time, and was in fact postponed longer than had been anticipated, owing to dissensions among the managers. It is not an unnatural nor an unexpected policy, since it was evident that the railroads would not be willing to leave the gains resulting from the rapid rise in prices of iron to the furnacemen entirely, but would claim their share of the greater profits realized. The effect of the new rates will be most felt by the Southern producers, but they are probably best able to support them, as their greater cheapness of production will still enable them to compete with their Northern and Western rivals.

Deliveries of Lake Superior iron ores at Lake Erie ports will be somewhat limited during the closing weeks of the season by the sharp competition for lake tonnage. A demand for vessels for carrying grain cargoes before the close of navigation has forced up rates to a point which has attracted many of the boats which have been engaged in the ore trade. The effect has been, of course, to increase the rates on ore to a point which almost prohibits its present shipment, or at least increases its cost to the consumer very considerably. Doubtless next spring will see an increase in the available vessel tonnage sufficient to meet all demands, and consequently enough competition to prevent any very high rates.

As showing the extent to which the arrangements for loading and unloading the large ore boats at lake ports have been improved, we may mention that recently one vessel unloaded three cargoes of ore at South Chicago inside of seven days. That is, in one week this boat was unloaded three times, loaded twice and made two round trips between Chicago and Escanaba. The cargoes were of over 2,000 tons each. Such rapid work would have been considered unattainable only a few years ago; that it has been actually accomplished shows how fully the carrying capacity of these vessels is now utilized.

We have before referred to the exhaustion of the gold mines of El Callao in Venezuela, and to the attempts of the company to revive its fortunes by operating other mines in the same district. El Callao is practically abandoned, and hardly any ore is now taken out of that mine, but the company has connected its mill with three other mines of which it has acquired control, the Remington, the Colombia, and the Panama. The work done in those mines, however, is not very encouraging. The Remington at the present time promises best, but it is necessary to sink a shaft and do other work to explore the vein still further. Meantime the excellent and costly mill plant owned by the company is almost idle. To remedy this state of things President Liccioni proposes the organization

of a new company which shall have a capital of 35,000,000 bolivars (about $17,500,000). In this company will be included by purchase all the property of the old concern and in addition several other mines in the same district, including La Union, Nueva Hanza, Venezuelan-Austin, Potosi del Oro, La Chile, and Callao-Bis. All of these mines can be connected with the El Callao mill by a railroad 18 kilometers in length, part of which has already been built. The Austin mine is considered especially valuable, and it is believed that all these properties will furnish the mill with the 10,000 tons of ore yearly required to keep it busy.

Meanwhile, pending the consideration of the new project, the stockholders of the El Callao Company are to vote shortly on the reduction of the capital stock, which has been seriously impaired. The present amount of the stock is 32,200,000 bolivars; the outline of the proposed consolidation puts in the property of the company at 12,000,000 bolivars.

EXPORTS OF MANUFACTURES.

A favorable feature of the foreign trade of the United States, as shown by the reports of the Bureau of Statistics for the present year, has been a marked increase in the value of exports of manufactures of different classes. The returns now issued in complete form cover the period of eight months ending with August, and for that time the value of exports of manufactures for the present year amounts to $129,440,864, against a total of $118,050,141 for the corresponding period last year. This shows a gain of $11,390,723, which if continued for the balance of the year—and we are informed that it is not only continuing but increasing—would make the gain between $17,000,000 and $18,000,000, or would carry the total for this year to about $196,000,000, which would be by far the highest figure ever reported in any year. The gain would help somewhat to offset the loss in the exports of raw materials which has been shown for the present year, but it would do more than that; it would show a gratifying progress in the attempts made by American manufacturers to secure a foreign market. If we take the Government reports for the fiscal year ending with June 30th, we find that the proportion borne by manufactures to the total exports of the country has shown a considerable variation. In 1889 it was 19 per cent., and in 1890 fell to 18 per cent. In 1891 it rose considerably and was about 19½ per cent., but in the following year it decreased again, partly owing to a reduction in the actual amount and partly to extraordinary exports of grain and other raw materials, and was but 15½ per cent. In the following year, 1893, while there was comparatively little change in actual amount, the proportion increased to 19 per cent again. In 1894 there was a substantial increase, and the proportion was 21 per cent, while for the year ending last June it was 23 per cent. From all indications the present year will show a much higher proportion.

As our readers know, we have always held that the true interests of a country, especially one possessing great supplies of material like our own were found rather in the exportation of manufactured goods than of raw materials. In this respect, therefore, we seem to be making a steady advance which cannot fail to be of benefit. The fact that this advance has continued during the present year in spite of the improvement in business and demand at home is an evidence that it has been due not alone to the extreme low prices of last year and the necessity then forced upon many manufacturers of selling their products anywhere and at any price, but to the country acquiring a hold upon new markets and extending its trade in quarters where it has hitherto been very small.

We hope that our manufacturers will realize the advantages to be obtained from this extension of trade, and that there will be no cessation in their efforts to maintain and continue it. The abundant supplies of fuel and other materials which we possess, our excellent machinery and facilities for manufacturing, and the superiority which is admitted in certain classes of manufactures, and which we are rapidly attaining in others, are all advantages which we ought to utilize to the fu llest extent. If our merchants and manufacturers would imitate the example of the Germans, to which we have often called attention, there is no doubt that we can compete successfully in the markets of a large part of the world with any of our rivals, and that in some of them we could maintain ourselves almost to the exclusion of all others. The sooner our manufacturers realize these truths the more will it be to the advantage of us all.

THE BRITISH COAL PRODUCTION.

The output of coal in the United Kingdom in the year 1894 was the largest ever recorded, reaching a total of 188,277,525 long tons, or 2,798,399 tons more than in 1891, which had previously shown the maximum production. The increase over 1893, when production was stopped for several weeks, in all the important districts, by the great strike, was 23,951,730 tons. As compared with our own production for 1894, Great Britain was still the leader by 36,526,728 long tons. It is the belief expressed by some writers, that the British production has nearly reached its probable maximum limit, and some even think that its tendency in future will be to decrease rather than to increase, but we do not share this opinion. The average value at the mine, as given by the official returns, has shown a steady decrease. It is $1.92 per ton in 1891; $1.74 in 1892; fell to $1.63 in 1893, in spite of the artificial scarcity for a time, and last year again fell to an average of $1.59 per ton, as compared with $0.96 per long ton as the average value of the bituminous coal at the mines in the United States in 1894. The total amount of coal exported last year, including the coal equivalent of coke, and including also coal sent abroad for the use of British steamships, was 42,687,430 tons, or 22·7 per cent. of the entire product. The exports, like the production, were the largest ever recorded, and exceeded those of the previous year by 5,199,360 tons. The imports were nominal, only amounting to 10,313 tons, of which 297 tons were from the United States.

Deducting the coal exported, we find that the amount left for home consumption was almost exactly the same as in 1891. Assuming that this amount represented the consumption, we find that the latter reached an average of 3·754 tons per inhabitant. The quantity of coal used in the manufacture of iron is not stated; there were 14,884,800 tons used in making pig iron, but this was only a part of the fuel consumed in the iron industry, and comparatively a small part.

The British mineral returns for 1894, from which our figures are taken, give for the first time the production of anthracite coal separately. It was last year 1,795,939 tons, or 0·95 per cent. of the total output. Five-sixths of this—or 1,550,154 tons—came from the Welsh mines, but Scotland also contributed 147,230 tons, and Ireland 98,555 tons. No anthracite was mined in England.

It will be interesting to compare the production of the United Kingdom with our own for several years past. The following table—from the "Mineral Industry," Vol. III.—shows the coal production in the United States and the United Kingdom since 1890; the figures are in metric tons, the universal measure:

Year.	United States.	United Kingdom.
1890	141,589,980	184,538,278
1891	153,810,270	188,465 340
1892	163,657,988	184,713,640
1893	159,949,176	166,971,440
1894	154,229,383	188,277,525

From this table it will be seen that, making allowances for the exceptional decreases shown in Great Britain in 1893, and in this country during the depression of 1893 and 1894, British coal production increases now but slowly while our own is growing in a much more rapid ratio. It seems probable that were the coal production expressed graphically the lines of the two countries would in all likelihood cross within a few years and that at that time the production of each would be not far from 200,000,000 metric tons yearly. Something depends upon the inroads made on the British export trade by the competition of other countries, and in our own case on the possible or probable development of the export business with South American and other nations.

NEW PUBLICATIONS.

A Handbook for Surveyors. By Mansfield Merriman and John P. Brooks. New York; John Wiley & Sons. Pages 244; with diagrams. Price $2.

This work is a book very much smaller than the large pocketbooks like Trautwine's or Hodgman's, and for that reason very much more convenient for ordinary use. It was designed for classes in technical schools and also as a field book for surveyors, and the object was to cover concisely as possible the ground that a student is obliged to pass over before taking up the subject of railroad location. It is, so far as we know, the only textbook on elementary surveying in pocketbook form which is published and omits a great deal of really superfluous matter given in the larger books. With the exception of Hodgman's pocketbook, it is also the only one, we believe, that is well adapted for the use of the ordinary land surveyor who is not required to burden his pocket or his desk with the great variety of tables and information required by his professional brother who has taken up a wider range of work.

The authors have wisely omitted the usual descriptions and illustrations of surveying instructions, as the book is not likely to be used by any one who has not attained some practical knowledge of those instruments. In some cases, however, comparisons have been made between different forms, and methods of testing and comparing instruments are given.

A feature worthy of note is that the old terms "latitude" and "departure" have been dropped, and instead of them "latitude difference" and "longtitude difference" are employed, as is now generally done in geodetic surveying. The advantages of this change scarcely need to be pointed out. We need hardly add that the name of Prof. Merriman is sufficient guarantee of the care taken in compiling the work and the correctness of its statements.

The Gold Mines of the Rand; a Description of the Mining Industry of the Witwatersrand, South African Republic. By Frederick H Hatch and J. A. Chalmers. London and New York; Macmillan & Co. Pages 308; with map and illustrations. Price $6.

The attention everywhere called to South Africa by the extraordinary development of the gold mines of the Transvaal has resulted in the publication of many books on the country and its mines. Unfortunately most of these are of slight value—or of none at all—but merely compilations of letters, newspaper articles and the like; books made to order and not at all carefully prepared either as to the sources or the accuracy of their information.

The present book is of a very different order. With the exception, per-

haps, of Bergrath Schmeisser's monograph on the Transvaal mines—which is not, we believe, accessible in English form—it is by far the most full and elaborate work on the subject which has yet appeared. Moreover it bears throughout evidence that the authors are not only familiar with the Witwatersrand, but that they also have a practical acquaintance of mining operations; a combination of local knowledge and general experience, which well fits them for their task. Appreciating this fact, and admitting also that there is throughout an evident disposition to give facts rather than theories and to tell the truth as to the past history and present condition of the district, the reader and reviewer can readily pass over some roughnesses of style as defects which do not detract from the real merits of the work.

After a brief historical introduction and a chapter on the geology of South Africa, the book is devoted entirely to the Witwatersrand and its mines, treating in order of the gold-bearing conglomerates or "banket" beds of the district: of the development and prospects of the deep levels, upon which the future so largely depends; upon mining practice and the surface equipment of the mines; upon the metallurgical treatment of the ore, and of the economics of the mines. The concluding chapters relate to the mining laws and regulations of the Transvaal and to the actual gold production and dividends. The statistics in the last chapter are brought up to the close of June of the present year.

The chapters on mining practice and surface equipment give descriptions of a number of the individual mines, with many interesting particulars as to the plants in use; and those on metallurgical treatment of the ores also give accounts of a number of the mills and reduction works. The nature of the ores has made mill practice on the Rand comparatively simple. Stamp mills, with various supplementary devices for amalgamation, are in universal use, and there has been a tendency in many ways to follow American practice, which has been helped by the fact that some of the best known and most successful mine managers and engineers have been men trained in our own mines. The only novelty in the metallurgical practice of the Witwatersand has been the use of the cyanide process on an extensive scale for the recovery of the gold left in the tailings. At the present time the question most discussed is the extent to which concentration of the tailings should be carried before they are sent to the cyanide vats, with a view to separating the coarser and heavier portions for treatment by chlorination or otherwise. This is a point of growing importance, as the pyritic contents of the ores increase with depth. It is, after all, mainly a question of economics, and to a large extent must be decided by each mine for itself; the point being whether the gold obtained by saving and treating the concentrates will show a profit over the cost of the work.

The part of the book which will probably interest many readers most is the chapter which treats of the deep levels and the probable future of the district. The authors are enthusiastic believers in the future of the Transvaal, and they anticipate that the production will, by the year 1900, be carried up to 6,500,000 oz., or say $130,000,000. Their estimate of the possible total extraction before the final exhaustion of the region runs up to $3,500,000,000. This is much higher than Bergrath Schmeisser's estimate, because he included the reefs to a depth of 3,000 ft. only, while Messrs. Hatch and Chalmers anticipate the working of the deep levels to 5,000 ft. from the surface. In support of their estimates they have added to their preface a memorandum signed by Mr. John Hays Hammond, in which that gentleman argues in favor of the feasibility of conducting operations at a depth of 5,000 ft. without excessive cost or very great difficulty. Mr. Hammond's estimate of future production is somewhat lower than that given above, since he puts the probable maximum production at $100,000,000 yearly. He gives no estimate of the total output, but says that, in his opinion, the estimates previously made have been too conservative, and may properly be increased.

The book is well illustrated, the plates including geological sections, maps of several properties and drawings of machinery and mills. There are also two large folding maps showing the Witwatersrand district on a large scale. It is a book which everyone interested in the South African mining industry should see.

"International Trade" is the name of a new monthly magazine issued by Henry Glassford in New York, its object being to aid in and forward the advance of export trade in the United States. We have always believed that this country was able to compete abroad with any of its competitors under proper conditions and any effort to develop foreign trade is to be welcomed. The first number is chiefly a South African issue and we understand that the idea is to devote each number as far as possible to some special country. In addition to the South African matter, a large amount of general and commercial news is given. The price of this periodical will be $3 per year.

The "American Engineer and Railroad Journal," which claims, as successor to the old "Railroad Journal," which was edited for a long time by Zerah Colburn, to be the oldest of technical papers in this country, announces its intention of changing from monthly to fortnightly issues from November 1st. The change will doubtless be an excellent one, as it will enable the "Engineer" to come closer to its readers and to give later and fresher news than it is possible to do in a monthly. We trust that the change will be a successful one, and that it will before long be followed by a further one to the weekly form, which is certainly that in which a technical journal can best reach its readers.

BOOKS RECEIVED.

In sending books for notice, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

Vitrified Paving Brick. By H. A. Wheeler. Indianapolis, Ind.; T. A. Randall & Co. Pages, 84. Price $1.

Laboratory Manual of Inorganic Preparations. By H. T. Vulté and George M. S. Neustadt. New York; George Gottsberger Peck. Pages, 185; illustrated. Price $2.

The Gold Mines of the Rand. By Frederick H. Hatch and J. A. Chalmers. London and New York; Macmillan & Co. Pages, 306; with maps, plans and illustrations. Price $6.

The Iowa Geological Survey: Volume IV., Third Annual Report, 1894, with accompanying papers. Des Moines, Iowa; Published for the Survey. Pages, 467; with maps and illustrations.

The Journal of the Iron and Steel Institute. Volume XLVII., No. 1, 1895. Edited by Bennett H. Brough, Secretary. London and New York; E. and F. N. Spon. Pages, 571; with diagrams and illustrations.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials only will be published when so requested.
Letters should be addressed to the MANAGING EDITOR.
We do not hold ourselves responsible for the opinions expressed by correspondents.

The Santa Ysabel Gold Mine.

EDITOR ENGINEERING AND MINING JOURNAL:

Sir: In your issue of October 12th information is asked regarding the Santa Ysabel Mine. The property consists of a consolidation of the Knox & Boyle, Miller & Holmes, Grey Eagle and Nyman claims, all of which belonged to different owners formerly. They are situated on the Mother Lode in Tuolumne County, California. The old workings of the Know & Boyle consisted of a shaft sunk about 400 ft., from which $223,000 was taken in free gold, no account being made of the sulphurets. On the Miller & Holmes a shaft or open cut yielded the owners $90,000. The ore taken from the Knox & Boyle shaft averaged in free gold $50 per ton in returns. The present owners have sunk shaft No. 1 on the Miller & Holmes 257 ft., shaft No. 2 about 100 ft., and are retimbering and straightening shaft No. 3 on the Knox & Boyle. Distance between No. 1 and No. 2 shafts is 543 ft.; between No. 2 and No. 3 is 1,050 ft. At No. 1 shaft between 400 and 500 ft. of drifting on east and west veins has been done, showing a large quantity of good ore. The company has an electric plant run by water-power, with hoists for each shaft. In addition to the mining claims it has a mill site of about 140 acres, through which runs Wood's Creek. Having been engaged in mining in the State of California for the past 15 years, I do not consider the estimate ($4) for mining and milling any too low. The mine is under the same management as the Napa and Ætna quicksilver mines, and was purchased as a business proposition for the profit arising from operating. The ore is largely free-milling, and our assays have shown $17.50 per ton and upward. We shall continue to sink the three shafts and thoroughly prospect and develop the mine, which we thoroughly believe to be a good one. The claims cover about 2,700 ft. on the Mother Lode and 3,200 ft. on the East or Slate Vein in length. The Boston Stock Exchange was given all information in regard to the property before listing it.

W. B. BUCKMINSTER,
General Manager Santa Ysabel Gold Mining Company.

BOSTON, Oct. 14, 1895.

Treatment of Boiler Feed Waters.

EDITOR ENGINEERING AND MINING JOURNAL:

Sir: In your issue of September 7th, I notice an article on the purification of boiler feed waters, by Dr. F. Wyatt. As this is a subject to which I have given considerable attention, I naturally read the article with much interest. I would like to ask the author in regard to his explanation of the formation of free sulphuric acid in water from contact with pyrites deposits. He says: "The presence of organic matter taken up by the water in its aftercourse reduces the iron" (in the sulphate of iron), "the bottom of the stream becomes lined with the red oxide and a considerable proportion of sulphuric acid is left in the free state."

I do not think that the author means what he says here. Probably his idea is that the free sulphuric acid and the ferric oxide are formed by the oxidation of the copperas or sulphate of iron to basic ferric sulphate and free sulphuric acid, thus: $2\ (FeO_2\ SO_3) + O$ become $FeO_3\ 2SO_3$, which decomposes into $Fe_2O_3\ So_3 + So_3$.

I do not think that that is what takes place at all, however. My own opinion, which is borne out by other chemists who have given the subject close attention, is that upon long exposure, in a finely divided state, to the atmosphere, the iron pyrites, FeS_2, oxidizes at once to basic ferric sulphate and free sulphuric acid, thus: $2\ FeS_2 + 120 = FeO_2\ O_3, 2\ So_3 + 2\ So_3$. The free sulphuric acid is therefore formed already in coal stratum.

Another question I would like to ask is this: How can bichromate of soda be thought of as a suitable boiler compound when free chromic acid is generated in the reaction taking place in the boiler? This free acid, as well as the excess of the bichromate itself, must act upon the metal of the boiler. I fail to see why free chromic acid is not equally objectionable as the free sulphuric acid. If there were enough organic matter present to reduce the chromic acid to hydrated sesquioxide there would probably be no harm done. If chromates are used at all they ought to be the neutral ones.

This whole subject is a very large one, and to pronounce decidedly in favor of any one boiler compound would be foolish. What suits one water is unfit for another. In many cases nothing but actual analyses can determine what chemicals should be used to remedy the natural defects of the water. I would say, however, that as a rule the water in a boiler should never be allowed to show an acid reaction.

NEW YORK, Sept. 10, 1895. JOHN ENEQUIST.

Japanese Coal Trade.—A recent report made by the British Consul at Yokohama says that the breaking out of the war between Japan and China caused the price of coal to rise very considerably. The Japanese Government requisitioned the total output of the large coal from the Takasima mines, as well as that of several other coal mines of repute, for the use of the navy and transports. For some time, also, difficulties were placed in the way of export so as to prevent the Chinese being supplied, but stocks accumulated rapidly, and the restrictions were soon withdrawn, and large shipments followed at fair rates, Moji and Shimonoseki, which are practically the same place, doing the bulk of the business. Karatsu shipments show an increase, the quality of Keigama coal being very good. The exports from the special ports are as follows for the year 1894: Shimonoseki, 382,536; Moji, 388,017; Karatsu, 73,126; Kuchinotsu, 384,831; Misumi, 8,230; total, 1,186,740 tons. This is an increase of 196,628 tons over the exports for 1893.

THE ATLANTA MEETING OF THE INSTITUTE OF MINING ENGINEERS.

Reported for the Engineering and Mining Journal by our Special Correspondent.

The members of the Institute of Mining Engineers, after concluding their business sessions on the evening of October 9th, carried out the original programme by visiting the Exposition on the 10th; Stone Mountain granite quarries on the 11th; and the Pickens County marble quarries on the 12th. The party left Atlanta 1 a.m. on the morning of the 13th, arriving at Chattanooga at 7 a.m. Breakfast was taken at Lookout Inn on Lookout Mountain. The remainder of Sunday was spent in viewing the scenery from the summit of the mountain and resting. At the conclusion of dinner, 8 p.m., Dr. R. W. Raymond, assisted by President Joseph B. Weeks, held divine service in the parlors of the hotel. The sermon was characteristic of the man who delivered it, strong, eloquent, logical and convincing. His words were listened to by the entire party, with attention, and at the conclusion the appreciation of the congregation was shown by the warm and cordial hand pressures and words of hearty thanks to the doctor.

Monday, October 14th, was devoted to a visit to the battle grounds of the National Park. In the evening a reception was held by H. Clay Evans and other prominent residents of Chattanooga, followed by a ball, and the departure of the members at 1 a. m. on the morning of the 15th for Asheville, N. C., and thence home.

The trip to Stone Mountain granite quarries and the barbecue, tendered the Institute by the Venable Brothers, the owners of the property, was highly appreciated. The marvelous formation of the mountain of granite, with its circumference at the base of seven miles, and its elevation of about 500 ft. above the normal level of the country, were referred to in the after-dinner speeches of President Weeks, Secretary Raymond, Dr. Fernow, Dr. Day and others. The method of quarrying this granite is known as "plugging and feathering." No dynamite or other explosive is used except in first opening a new quarry, to remove such rock as weathering has rendered useless for general purposes. By the system adopted slabs and blocks of granite of any size desired can be readily quarried. As an evidence of this fact we have only to inspect the block of granite on exhibition at the Exposition, which weighs 68,000 lbs. We were unable to see the extent of the work of Venable Brothers, because a very large proportion of the product of their quarries is obtained at Lithonia, on the opposite side of the mountain, which we did not visit. The quantity of granite in the mountain is certainly inexhaustible. Shafts which have been sunk prove that at a depth of 60 ft. below the surface the granite is of as good quality as elsewhere, and well adapted for both building purposes and interior finish. At present the Venable Brothers are quarrying blocks for use in the erection of the large office building which they are putting up on the site of the old Capitol building in Atlanta, burned several months since.

We give below some additional abstracts of papers presented at this meeting:

THE EFFECT OF WASHING WITH WATER UPON THE SILVER CHLORIDE IN ROASTED ORE.

BY WILLARD S. MORSE.

The decrease in chlorination, or what may be termed the "going back" of chlorination during the washing of roasted silver ores with water has been a serious obstacle to the successful operation of several leaching works, and was the greatest difficulty encountered in the treatment of silver ores by the Russell process at Aspen, Colo. Mr. L. D. Godshall has advanced the theory that this "going back" is caused by the presence in the roasted ore of a reducing agent in the form of sulphurous acid, reducing the silver chloride to metallic silver insoluble in the solutions or very slowly so. In the writer's opinion the cause is principally the presence in the roasted ore of sulphides of the base metals which have escaped oxidation in the roasting. In the Aspen ores it was due to the zinc sulphides which did not have sufficient time to decompose during the rapid roasting in a Stetefeldt furnace. The writer also believes that the experiments of Malaguti and Duroscher, showing the reactions between chloride of silver and the sulphides of the base metals, furnished a clue to the cause of the difficulty.

The paper gives tables showing a number of determinations made with the Aspen ores, and other experiments, all tending to show the existence of such a reaction. The writer's conclusion is that the reactions occurring between chloride of silver and the sulphides of the base metals are of great importance in the leaching of silver ores, either with brine, hyposulphite of soda or the Russell solutions; and he believes that this point has been overlooked by those who have investigated the subject, or at least by those who have published the results of their investigations.

NOTES ON CERTAIN WATER-WORN VEIN SPECIMENS.

BY F. C. HOLMAN.

In this paper the writer describes a phenominal discovery at Forbestown, Cal., in the Gold Banks mine. This mine is located at an altitude of 2,700 ft. on the track of one of the great canyons of erosion characteristic of the Sierra Nevada. The vein is strong and well defined and was opened by an inclined shaft. At the depth of 265 ft. the miners struck several cavities, one of which, especially described in the paper, was irregular, chimney-like and of such size as to permit a man to crawl into it. It gradually closed in at both ends. It was impracticable, however, to trace the continuation, if any existed. The vein at this point was in its ordinary condition, with solid masses at both sides of the cavity and and no evidence that it had been fractured or broken. There was no water coming in on this level. The sides and roof of the cavity were studded with crystals, many of them large, while upon the inclined bottom was a mass of loose debris. A large proportion of the debris showed evidence of attrition in all degrees, from the crystal with only the apex slightly smoothed off to a fully rounded pebble. Admitting a preliminary fracture a close examination of the specimens leaves little room to believe that any other agency other than that of mechanical abrasion in a steam of water will account for their condition. The inference is that during the formation of this ore-body there must have been a current of water very much swifter than that usually associated with ore deposits of this kind. The present topography of the country does not suggest any opening affording the required differences in level for a swift current such as would produce abrasion, nor was there apparently any outlet for the water; but the existence of a current seems to be a necessary assumption.

THE PHYSICS OF CAST IRON.

A number of written discussions of the paper on this subject by Mr. William R. Webster, read at the Florida meeting, were presented. Mr. F. E. Thompson, Mr. S. M. Vauclain, Mr. H. V. Wille, Mr. Stanley G. Flagg, Jr.: Mr. C. R. Baird, Mr. Thomas D. West and Mr. William C. Henderson all called attention to the increasing amount of work done in foundry practice upon chemical and physical tests and the extent to which such tests of iron are replacing the old practice, or rule-of-thumb work, in making mixtures of iron for foundry casts. Very much greater care is now taken than ever before in such work with corresponding benefit, as shown in the results. Mr. F. Schumann spoke of the necessity of a general investigation and suggested that Government might undertake the work. The causes influencing results obtained in the foundry, he said, were fuel, iron mixture, flux, manner of melting, casting, temperature and method of pouring. The shape of the casting was also important and was not well understood by designers generally who unfortunately pay but little attention to foundry practice. Mr. E. D. Estrada called attention to several phenomena in relation to remelting of cast iron.

Mr. Asa W. Whitney wrote at length of the practice followed for many years at the car wheel works of Whitney & Sons in Philadelphia. For a number of years past many experiments and tests have been made in this foundry with very interesting results, and there has been in consequence a marked improvement in the quality of the castings. The strength of wheels under railroad tests, for instance, is much greater than it was a number of years ago, while very high results have been obtained with ordinary castings. At these works daily tests are made of test bars taken from the melts, and much care is exercised in making the mixtures of iron for casting.

Mr. Henry D. Hibbard wrote especially of the influence of sulphur on cast iron, and suggested that some part at least of the superiority of charcoal iron might result from its freedom from sulphur.

ONYX MARBLES.

BY COURTENAY DE KALB.

The paper begins by drawing a distinction between the precious onyx and the ordinary commercial onyx, the former being distinguished by the parallelism of the color bands, which are usually alternates of white and black, white and brown, and white and red. The term "onyx marble" as applied to calcareous deposits must be still further limited since there are many varieties. The general name of "travertine" includes all such deposits except the finely crystallized calcite and arragonite. The term "onyx marble" after all is more a commercial than a scientific distinction since that which entitles a stone to the designation is the circumstances of texture and beauty which fit it to serve as an ornamental stone. The requisite commercial qualities are homogeneity of texture; freedom from pores and cracks; translucency; beauty of coloring and proper size of perfect blocks, the usual lowest limit for thickness being 1-in., and for superficial area 1-ft. square. The price varies very much according to the grade of the stone, running from 50c. per cu. ft. for purer grades up to $50 per cu. ft. for the finer, while extremely fine and large blocks suitable for columns command fancy figures. The average size of good slabs is not over 12 × 14 in. though those 2 × 4 ft. in size are not uncommon. To take ordinary varieties, the Mexican Pedrara is quoted at about $10 per cu. ft., while fine Arizona stone sells at about $8, and Californian blue and yellow at $6.

The paper then describes the method of preparing onyx marbles for use at considerable length. The amount produced in the United States at present is very small and comes entirely from California, Arizona and Utah. The conditions under which the deposits are found are very similar in all these states. Varieties of onyx have been found in New Mexico, Texas and Arkansas, while small amounts have been found in Missouri and Virginia. The most important source of supply, however, is from Mexico. The older localities are chiefly in the State of Puebla, but the largest existing quarries are those at New Pedrara in lower California. It may be said generally that deposits furnishing the best onyx marble are found in regions which have been subjected to volcanic disturbances; that they are superficial deposits and are so frequently associated with active hot springs or with deposits manifestly resulting from hot springs as to lead to the presumption that there must be a genetic relation between them and such springs, and finally that they are associated with rocks yielding large percentages of lime.

An Extraordinary Analysis.—To make an accurate and complete analysis of either iron or steel, as is well known, frequently requires a considerable quantity of the sample under examination to become dissolved or otherwise acted upon, in order to ascertain the various constituents present, which are otherwise rendered latent by the large excess of iron associating them. But cases are few and far between says the London "Mining Journal," where 4 lbs. in weight have to be operated on, as was the case recently at the Research Laboratory, when an extraordinary examination was required in order to ascertain the relative amounts of both gold and silver present. For examination and estimation of silver 4 lbs. in weight of each sample were selected, the product being bar-iron of 1 in. in circumference. Each bar was attached to the positive of a battery of 3 volts 40 amperes, while a carbon electrode furnished the negative, dilute vitriol being employed as the solvent. Dissolution was completed in 48 hours, save a thin wire of iron, which was allowed to remain, in order to ensure retention of the silver present in the carboniferous residue. The residue was next dried and intimately mixed with an excess of chemically pure litharge, and reduced in the usual way; the silver separated by cupellation and gold by parting. Of the four samples thus treated, the silver being estimated as percentage of the carboniferous residue, amounted to as follows: Iron of Swedish origin, 0·8; iron from Shortridge & Howel, 0·055; Low Moor iron, 0·100; Dannemora, 0·064; in each case traces of gold were obtained by parting. Bars of steel similarly treated yielded percentages approximating 0·078, 0·048, 0·098, 0·032.

NOTES ON ARIZONA GEOLOGY.

Written for the Engineering and Mining Journal by Theo. B. Comstock.

Arizona's early record as a "bonanza" silver producer has really served in large measure to injure her reputation as an ordinary, every-day mining region. It may very probably come to many as a piece of news that there is no State or territory which is as well placed for the prosecution of a strictly legitimate mining industry. In copper, this fact has been demonstrated beyond contradiction; in silver, though it may not be generally known, a larger percentage of mines has been worked all through the era of depression than anywhere else in the United States. In gold, the production has been quadrupled in the last two years, and a very full acquaintance with the whole Western mining area enables me to judge fairly of the future possibilities. I do not hesitate to say that there is no gold field in the United States as well adapted for profitable working as that embraced within this territory and portions of the adjoining country.

The particularly prosperous gold areas of Colorado are, geologically, not unlike those which are to become the profitable tracts in Arizona. Skill and metallurgic prescience were necessary to make the former remunerative. The same requisites are not only important with us—they are thoroughly well proved to be adequate where failure has followed the other too common policy of management.

The geology of Arizona is responsible for a wide diversity of local conditions, so much so that many have been led to disclaim any approach to system in the arrangement of the ore belts. Mines have been worked as if each were independent of all others, and very few have attempted heretofore to study the vein phenomena with reference to any connected scheme of geologic structure.

The present writer began his studies in this field four years ago. An intimate acquaintance with the different mining areas has developed much closer relations among widely separated districts than was at first anticipated. Space will only permit here a very general statement, which may suffice for ordinary purposes. Investors with business intentions should not be satisfied with this outline, however.

Arizona has representatives of all the great groups of rocks from archæan to tertiary and later. The earliest strata are exposed in portions of the Grand Canon of the Colorado, in Northern Arizona, where sections present excellent representatives of later terranes, including carboniferous limestones and triassic (?) sandstones, not greatly tilted for the most part. Further south remnants of cretaceous are found upon isolated mountains, unconformably superimposed directly upon beds of carboniferous limestone rather steeply inclined. These features are all exposed within an area defined by a fault line extending almost exactly through the middle of the territory from northwest to southeast, so as to separate the region east of the fault wholly from the western area. This great fault line, with parallel breaks east and west of it, extends as a prominent topographic break from far northwest in Nevada, or beyond, to a long distance southeastward in Mexico. I have crossed it in the States of Chihuahua and Durango, and in nine places in Arizona. At every point the characteristics are much the same, the ascent from the west across the fault being precipitous and difficult. The Southern Pacific, the Atlantic & Pacific, and the Santa Fe, Prescott & Phœnix railroads all have to cross the line by tortuous routes, involving difficult engineering construction. At the time of the great earthquake, several years ago, an added "throw" of 15 ft. was visibly given on one side of the fault, not far from Fronteras, in the State of Sonora, Mexico.

As far as I can yet make out, the old cretaceous shore line was never far north of, say, the southern half of the portion of country east of the "Rim," as the great fault bluff is locally named. This area, submerged during cretaceous time, roughly the region south of the Gila River and east of the great fault, corresponds in its underlying structure much more closely to the area west of the fault line. Without going into details, there is also a marked difference in the amount of folding in Northern and Southern Arizona, both east and west of the fault line. South of the Pinal, Superstition, Bradshaw and other backbone ridges, excessive orographic disturbance has been the rule; north of this, as a rough line of separation, the reverse is the case, at least with the sedimentary terranes. It is difficult to generalize properly without better work than has heretofre been attainable, but my own observations thus far seem to indicate that a pre-carboniferous disturbance of much importance affected the now metamorphic slates, granites, etc., which were then folded into highly-tilted ridges along axes trending nearly east-west and over an area of disturbance of vast extent from north to south, certainly far beyond the confines of Arizona. In these folds, of which I have located seven or eight well-defined gold belts in Arizona alone, besides numerous others in Mexico, lie the veins which are to add new lustre to our territory's fame as a mining region.

The typical belt is, perhaps, that which traverses the Chiricahua Mountains, in Cochise County, including properties at the head of Wood Cañon, those of the Dos Caberas district and the new discoveries in Sulphur Spring Valley, between Willcox and Tombstone. There are rare properties in this belt, and it is strange that capital has not yet been able to induce the original discoverers to make proper terms for exploiting them. In the Bradshaw Mountains and eastward and westward is a very similar outcrop, but the views of certain promise are not confined to these areas. From the reservation of Fort Huachuca on the south, to the southern portion of Mohave County, on the north, there are seven belts or folds in which similar conditions prevail. The only reason why skill and geologic knowledge is necessary as a preliminary to judicious location is the occasional local confusion of the real structure by the results of subsequent disturbances.

The post-carboniferous uplift is difficult to define as to epoch, because there is so little left of the cretaceous over the area in question. Again, the excessive post-cretaceous disturbances, including, probably, the faulting previously referred to, accompanied by volcanic ejections presumably of several successive eras, make it very unsafe to to draw conclusions hastily. I can point in a single day's journey to carboniferous rocks lying at all angles, almost from horizontal to vertical, occupying very various relations to masses of porphyry and other igneous rocks adjacent. It is this confounded (in the sense of confused) connection of the gold veins with the volcanics which makes the labor of the field geologist a real necessity to the mining investor in Arizona. This confusion is greater west of the fault than east of it; but, on the other hand, the sedimentary strata cover the veins much more deeply on the east side of the fault. These matters, in greater detail, it is purposed to explain in a bulletin soon to be issued as one of the series (No. 4) emanating from the Arizona School of Mines at Tucson.

Taking into consideration present altitudes and other stubborn facts, it is difficult to conceive of the existence of the great faults prior to the cretaceous period. Near Benson, on the Southern Pacific railroad, which lies almost on the fault, there is an extensive and little disturbed terrane which is certainly post-cretaceous, and later (apparently) than the faulting. Over a wide area, along the fault line, there are what I take to be still later deposits, partly of brecciated character.*

A full discussion of post-cretaceous, if not of post-carboniferous, history must involve a better knowledge of the volcanics, and this study we are prosecuting with as much of vigor as is possible with available funds.

The northwest-southeast trend of uplift and faulting is pre-eminently the silver-copper course. See how Jerome, Globe, Rosemont and Bisbee, with some new discoveries in Mohave County, cling to this line, holding very near the great fault; notice the trend relations between the Grand Canon deposits northeast of Flagstaff, those southeastward in Navajo County and the Clifton deposits, also the geographic relations of the Silver Bell district, south of Casa Grande, to other copper areas southeast and northwest of that locality.

Moreover, if you show me a great gold mine apparently in the fault line, or a great silver or copper deposit which appears to conflict with the general conditions outlined above, I will, in almost every instance, proceed to demonstrate (and that completely) how each occurs at or very near the crossing of two of the systems of trend. Witness the famous Mammoth District on the San Pedro, almost wholly a gold field, but in the very path of the copper-silver fault. Two courses cross here, but the gold line is king. But how about the vanadite minerals and other varieties, which occur under almost identical conditions farther west in Yuma County, in mines which might be cited with equal propriety as exceptions to our rule? And, as further proof, at Tombstone, characteristically silver-bearing, a similar mineral (descloisite) occurs, as does also gold under peculiar conditions. There are, again, some of the mines of the Baboquinera range, as the Homestake and Octopus, where the duplication is evident in one vein, and the separation as fully characteristic in others. All these examples and hundreds of others have been carefully studied in making up the foregoing conclusions during four years of intimate scrutiny of the facts.

This is a bare outline of what is known of our gold veins, but is all that can be given in the space available in one article.

COAL IN INDIA.

While some disappointments have been experienced in India owing to the difficulty found in working the coal mines in Burmah and elsewhere, from which much was expected, the coal mining industry, as a whole, has made substantial progress. According to statistics published by the "Indian Engineer," from official sources, the total output of coal in India in 1894 was 2,774,091 long tons, an increase over 1893 of 244,236 tons, or nearly 10%. The following table shows the output for the two years by districts.

Province.	1893. Tons.	1894. Tons.
Bengal	1,870,720	1,989,373
Punjab	77,292	66,467
Central Provinces	135,118	140,495
Assam	164,420	169,448
Central India	94,358	132,837
Nizam's Territory	157,4 1	240,525
Madras	502	1,337
Beluchistan	20,094	21,498
Burma	9,931	12,111
Total	2,529,855	2,774,091

It will be noted that every district, with the exception of the Punjab, shows an increase. The greatest relative gains are in Central India, where there was an increase of 41%, and in the Nizam's territory, where an advance of 53% is shown. The actual quantities mined in both those districts, however, were comparatively small. The most promising coal-fields at present are said to be those of Mergui in Lower Burmah and of Kashmir; the latter, however, have been very little worked as yet. One encouraging feature of the trade is that the collieries are beginning to show a much better profit, the proportion being larger on an average in 1894 than for any previous year. The larger output of Indian coal is shown in the railroad returns for 1894, according to which the increased amount of fuel consumed, amounting to 80,000 tons over the previous year was drawn entirely from the Indian mines, the quantity of imported coal showing a decrease. The most disquieting feature, as far as the Indian coal producers are concerned, is the increasing competition of Australian and Japanese coal in the large seaport cities. Coal from Japan made its appearance in the Indian ports in 1894 for the first time.

New Coal Deposits in Norway.—Boring for coal is now going on at Andoe, a small island on the west coast of Norway. At latest account a depth of 22 meters had been reached and the drill had already passed through two seams of coal, respectively 75 mm. and 365 mm. in thickness.

Basic Steel in Germany.—There are now 18 works engaged in the manufacture of basic Bessemer steel in Germany, and these works have in all 57 converters, the greater number with a capacity of 10 tons each. Most of these works are in Westphalia and the Rhine district, but there are also works in Upper Silesia, in Bavaria, in Luxemburg and elsewhere.

* These are my Quaternary. Professor Blandy refers these, as I understand him, to the triassic. My observation of rocks associated with these (overlying them) which he thought to be red sandstones, as they appear at a distance, prove on closer inspection to be red volcanics.

AN IMPROVED TEN-TON CHLORINATION BARREL.

Written for the Engineering and Mining Journal by John E. Rothwell.

So many recent improvement have been made in the mechanical appliances used in the chlorination process for working gold ores, that a description of the latest design will be of interest.

The ten-ton chlorination barrel, of which drawings is given herewith, is one of the appliances recently added to the "mechanics of metallurgy." It was devised principally for use in the chlorination process, and is therefore lead-lined, but the general construction is equally adapted to the treatment of ores by any of the other processes which require the agitation of the ore in connection with a chemical solvent. Where cyanide is used, the lead lining would be left out and the joints of the shell well caulked to prevent leakage. The barrel as shown is 15 ft. in length, by 5 ft. 2 in. in diameter inside the shell; the shell is of sheet steel, $\frac{3}{8}$ in. thick, in two sheets of 90 in. width each; the tensile strength of the metal, 60,000 lbs. The heads are flanged spherical segments $\frac{5}{8}$ in. thick, of a sphere 15 ft. in diameter: they are put on over the ends of the shell, the end being chamfered down to fit close in the curved part and form a smooth surface for the lead lining to fit against. The heads are bolted to the shell with $1\frac{1}{4}$ in. bolts, turned and carefully fitted in reamed holes; to the shell are fastened the manhole or charging-hole castings, and the carrying flanges that support the tires on which the whole revolves. All joints of the shell are butt-jointed with cover-plate and are double rivetted; all rivets and bolts have countersunk heads, on the inside, to leave a smooth surface.

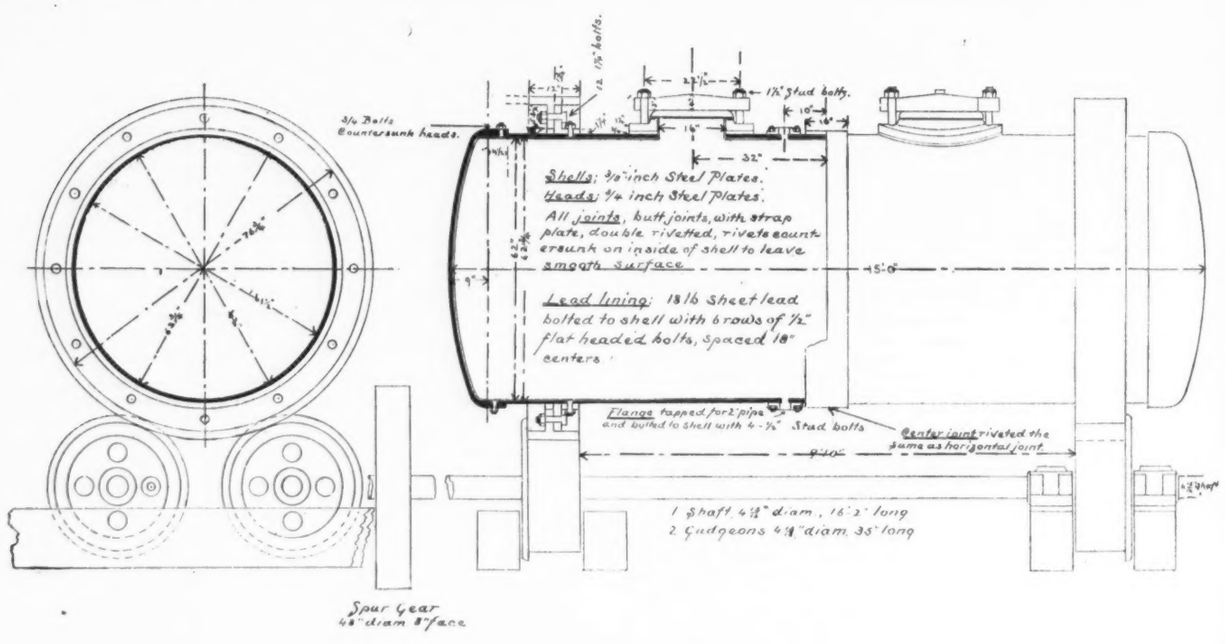
The tires are heavy cast iron rings with a face of 12 in.; they are bolted to the carrying flange with 12 bolts $1\frac{1}{4}$ in. diameter turned to fit. The bolts are arranged so that when worn out they can be easily removed and replaced with others. Two manholes, or charging openings, are provided for charging and discharging pulp, and are so situated that the charge can be put in or discharged rapidly. The shell is calculated to stand a working pressure of 60 lbs. per square inch, and is specified to be tested at 75 lbs. cold water pressure before it leaves the shop.

The lead lining, when the barrel is used for chlorination, is of 18-lb. chemical sheet lead. It is put in, carefully dressed back against the shell, and bolted in place with a number of rows of flat-headed $\frac{1}{2}$-in. bolts, six parallel rows in the length of the shell and two concentric rows on each end. Flanges tapped for 2-in. pipe are fastened with tap bolts to the shell at top and bottom, for the inlet and outlet of wash water and solution; also holes bored for the inside filter frame.

The tires revolve in a set of trucks carrying four rollers, two of which serve as the friction driving rolls, and are keyed to a shaft $4\frac{15}{16}$ in. in diameter, to which is also keyed the large spur driving gear; the other two rollers are keyed to gudgeons and revolve free. The rollers are all 30 in. in diameter and 12-in. face, and have a flange on one edge $1\frac{1}{2}$ in. thick and 2 in. high, to prevent the tires from fleeting off them. To the large spur wheels is geared a pinion on a jack shaft; the ratio of this pinion to the spur wheel is 4 to 1. To this jack shaft is also keyed a large friction-cluth belt pulley, 60 in. diameter by $10\frac{1}{2}$-in. face. The speed of the belt pulley is 90 revolutions a minute, giving a speed for the cylinder of $8\frac{1}{2}$ revolutions in the same time.

The total weight of the machine is about 28,000 lbs. This includes everything, the weight of the heaviest piece, the cylider with lead lining, being about 14,000 lbs., without the lining about 9,100 lbs. The bafrel is fitted with a sand filter of the kind described in the "Engineering and Mining Journal" for September 21st, page 273.

The advantages to be gained by a machine of this capacity are: in first cost it is not as expensive by several hundred dollars as two five-ton barrels would be; it is just as efficient and as easy to operate as the two smaller barrels would be, and the space required to set it up in is very little more than that required for one five-ton machine with the advantage of less frame work and line shafting to take care of. There is also a saving in the amount of chemicals used and the quantity of water required to charge and leach with, thus, in the treatment of low grade ores, resulting in a very much more concentrated solution for after treatment, with its consequent reduction of cost in precipitation and collection.


12 1½" bolts.
1¼" Stud bolts.
5/8 Bolts Countersunk heads.
Shells; 3/8 inch Steel Plates.
Heads; 5/8 inch Steel Plates.
All joints, butt joints, with strap plate, double rivetted, rivets countersunk on inside of shell to leave smooth surface.
Lead lining; 18 lb Sheet lead bolted to shell with 6 rows of ½" flat headed bolts, spaced 18" centers.
Flange tapped for 2" pipe and bolted to shell with 4-¾" Stud bolts
Center joint rivated the same as horizontal joint.
1 Shaft 4 15/16" diam., 16'-2" long
2 Gudgeons 4¼" diam. 35" long
Spur Gear 48" diam 8" face

TEN-TON CHLORINATION BARREL.

ABSTRACTS OF OFFICIAL REPORTS.

Rand Central Ore Reduction Company, Transvaal.

This company's report for the year ending June 30th, 1895, states that the capital now consists of 124,000 ordinary shares of £1 each, and 1,000 founders' shares of £1 each. Of the ordinary shares, at the date of closing the books, 4,000 remained in reserve. During the year net profits amounting to £40,769 were made, which added to the balance carried forward from June, 1894, less the directors' and managing directors' fees, left a balance available for distribution of £45,310. This it is proposed to divide as follows: For a dividend of 25% on ordinary shares, £30,000; for a dividend of £6 per share on founders' shares, £6,000; total, £36,000; leaving £9,310 to be carried over, and bring the total actual reserve fund to £22,445. Besides this amount, there is a sum in hand of £20,538 carried over in a suspense account, to meet as yet unadjudicated claims for royalty from the African Gold Recovery Company. A capital expenditure has been incurred during the year of £45,244 for new works, buildings, and plant; the bulk of this is due to the Robinson slime plant, and to the alteration and extension of the Central works.

The assets are assessed at a minimum valuation, and are almost immediately realizable under any circumstances. They consist of: Concentrates, tailings, etc., paid for, £57,277: stores on hand, and live stock paid for, £32,303: Cash on hand £12,689; Gold in transit, £15,599; total, £117,868. Against this are to be set the current liabilities on June 30th (since paid), amounting to £20,926, leaving a balance of £96,941. In computing the value of the assets, in addition to the usual annual depreciation of £15,231, a special depreciation charge of £8,000 has this year been made, the object being to increase the reserve fund to such an amount that it can be drawn upon to equalize dividends in an unfavorable year.

The managing director's report emphasises the gradual change in the company's sphere of activity, commencing as a corporation for the purchase of tailings, and now gradually diverted into a proprietary company, owning the most promising extraction patents—the Siemens-Halske and the slime processes—and largely engaged in construction work in the supply of cyanide plants, and portions of and materials for such plants, and in the development and acqusition of promising new processes of gold extraction or of improvements on the established processes. The successful introduction of the Siemens-Halske process has been the companies chief work for the year. The plants now using the process are: The Worcester, with a capacity of 3,000 tons; Metropolitan, 4,500; May Consolidated, 6,000 tons; Croesus, 6,000 tons; No. 4 Central Works, 5,000 tons; Robinson slime plant, 8,000 tons. Arrangements have also been completed for erecting 8,000 ton plants on the Simmer & Jack, the Van Ryn Estates, Van Ryn West, and Crown Reef slime installation. The experience at the Worcester and Metropolitan works indicates that the Siemens-Halske process is more economical than the MacArthur-Forrest process. Whereas on these mines 60,609 tons of tailings were treated during the past year at an average cost of 83·4c. per ton, the cost

of treating 296,399 tons at the six other installations belonging to the company averaged $1.18 per ton.

Next to the introduction of the Siemens-Halske process, credit must be given to the company for the introduction of the process of slime treatment, which promises to be a success at the works on the Robinson mine. The construction of the plant, which is designed for the treatment of the half million tons of accumulated slimes, will entail an expenditure of about £40,000. The confidence prevailing in the successful issue of the new process is evidenced by a recent completion by the Crown Reef Company of a contract for the treatment of the accumulated slimes in the same manner.

In the various cyanide plants belonging to the company 357,008 tons of tailings were treated during the year, producing 50,155 oz. of fine gold, at an average cost of 93c. per ton. The actual extraction of the gold in the tailings averaged 71·6%. The chlorination works have continuously given satisfactory results; 3,230 tons were treated during the year, and 12,368 oz. of fine gold recovered, an extraction of 99·45%.

The principle of investigating and experimenting with new inventions, which led to the elaboration of the Siemens-Halske process, has been continued, the expenditure for the year for experimental purposes amounting to £1,899. An interest has also been acquired in the Sulman patents, and exhaustive experiments will shortly be commenced with the view of proving their commercial value on a large scale. These operations, while comparatively inexpensive to the company, with its well-fitted laboratories and numerous installations, place it in the position of being able to acquire substantial interest in any new process of promise on purely nominal terms.

THE GERMAN LIGNITE BRIQUETTE INDUSTRY.

Although deposits of brown coal have been known to exist in the Rhenish district of Germany for several centuries, it is only within the last 15 years that any great attention has been paid to their development. This is principally due to the fact that the coal production of Rhenish-Westphalia has always been capable of supplying the demand for fuel. Even six years ago Rhenish brown coal was very little known to coal consumers. As the newly extracted brown coal contains about 60% moisture, of which only about 15% is lost when exposed to the air, it is easy to see that its heating value, as compared with true coal, is low. Consequently it has only been used in the districts near which the deposits are situated, especially so as during transport the coal crumbles into very small pieces. It was not until means were discovered of compressing the brown coal, and producing briquettes having a low percentage of moisture, that a development took place in the brown coal industry. Without detailing at length the early experiments in 1856, it may be stated that it was not till 1863-64 that machinery was so perfected as to allow a marketable briquette to be produced. The first plant of the kind to be put in operation was at Zeitz, in Saxony, the success of which soon led to the establishment of other similar plants. The principal brown coal deposits of the district are situated in the Rhenish tertiary foreland, between Bruhl and Horrem, the coal being mined by means of open cuttings. The deposits are worked under about 60 different concessions. They vary from 49 ft. to 164 ft. in thickness, without any intervening material. They are generally covered with a layer of clay or loam from 13 ft. to 45 ft. in thickness, so that this layer once removed, mining operations can be carried on easily and ietxpensively. In a few cases it has been found possible to construct eleleries at the deepest point of the seam, thus enabling, in dry weather, nhh whole face of the deposit to be brought down. A large portion of gat upper surface of a seam is of such a poor quality that it has to be removed as waste, and unless it is made use of in other ways it is tipped into the places from which the coal has been extracted. In the case of some of the larger seams, short galleries are driven below, while from above to the roof of the gallery an opening is made. Mining is then carried on, forming a kind of crater, the coal falling down through the opening direct into wagons in the galleries below. In addition to the above an important deposit exists, and is worked at Afden in the Aachen district, the product being converted into briquettes at Herzogenrath. Further deposits exist to the north, but at such a depth that they cannot be profitably worked.

The first briquette plant in the Rhenish district was established at the Rodder mines, near Bruhl, in 1876. At the present time in the Vorgeberge district, including the one at Herzogenrath, there are 12 briquette-making establishments, with 50 presses in operation, the annual output mounting to about 550,000 tons. Efforts are now being made to open p markets for these briquettes in foreign countries.

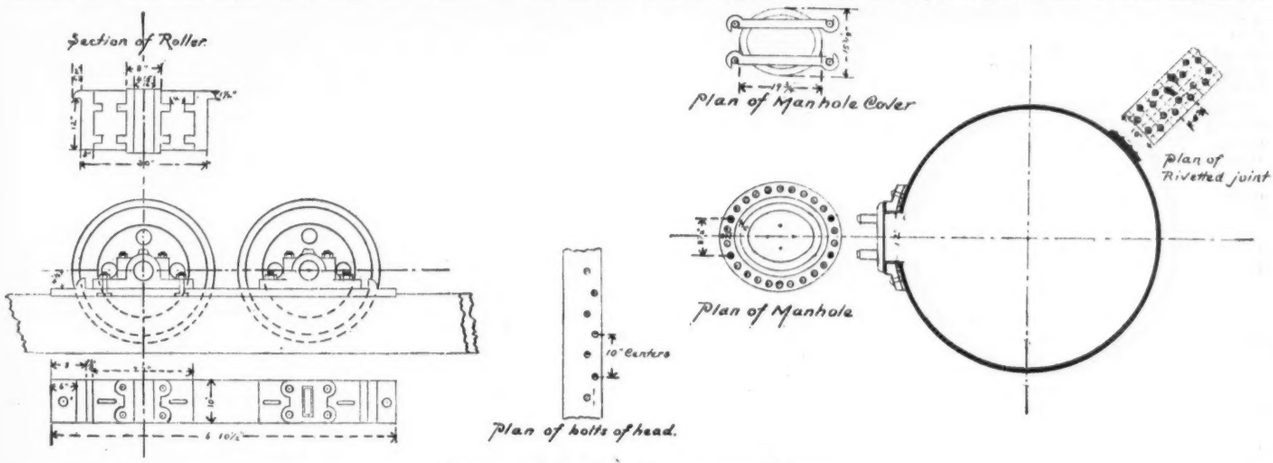
VARIATIONS IN THE MILLING OF GOLD ORES.—NO. XIII.—CONCLUSIONS.

Written for the Engineering and Mining Journal by T. A. Rickard.

> And all day long the stamp mill rolled
> Its thunder down the glen,
> In toil to free the yellow gold
> That binds the souls of men.

In concluding the series of articles on milling which have appeared at intervals in the "Engineering and Mining Journal" during the past three years, the writer does so with a feeling of relief in having arrived at the completion of a self-imposed task, but with regret in finishing, for a time at least, the record of a study which began 10 years ago. An early acquaintance with the practice of Gilpin County in Colorado, followed by the superintendence of a characteristic Californian stamp mill could not fail to impress one with the apparent contradiction involved in methods so radically unlike, and it was in the effort to understand the reasons underlying such marked variations that the study of the subject was first undertaken. Since then a familiarity with the practice of several colonial districts supplemented by frequent visits to various American goldmilling centers has only served further to render the enquiry interesting. Some of that interest has been communicated in the course of the descriptions of which the "Engineering and Mining Journal" has been the efficient medium.

In looking back over the visits to so many mills in localities so essentially unlike it is impossible not to realize that the variations in milling are as nothing compared to the variations in mankind. The gathering of data by means of inquiry and observation is an undertaking the pleasure of which is too often swamped by the labor consequent upon the drawing out of information from persons unwilling or unable to give it. Much as technical science has made itself at home in every Anglo-Saxon community there yet remain many who cannot comprehend the gathering of knowledge for its own sake, and only too often the inquirer is received with a suspicion which is as annoying as it is detrimental to the objects of his pursuit. In gathering data at the various milling plants I have found as a rule that the establishments which were the most systematically conducted were the readiest to grant the information required, that the most refractory were the most ignorant of what they were really doing and that in the latter case frequently the questions asked were such as the mill manager himself had never put to himself and to which therefore he could not reply without realizing, and for the first time, what he really was doing.



Details of Ten-Ton Chlorination Barrel.

The differences between the abilities of millmen and the management of mills would be absurd were it not depressing. It is depressing because there seems to me to be no excuse for consigning the handling of an ore reduction establishment to the hands of a carpenter or a miner, it is depressing because it appears such a blunder to exercise all skill and judgment in the mining of the ore and then to overlook the importance of the subsequent proper extraction of its valuable contents. That such things should be is due to the fact that the stamp mill is usually considered a very simple mechanism capable of regulation by almost anyone. The apparant simplicity of the treatment has prevented technical men from making it the subject of study which it appears to the writer to fully deserve and invite. And this the more since in spite of the encroachment of other more intricate processes the stamp mill seems to be destined to a career of further long continued usefulness.

It is indeed true that fire reduction processes are encroaching on wet methods, more particularly in the case of complex ores: it is also true per contra that chlorination, cyanidation and other leaching processes are actively competing for the millstuff which might otherwise go to the battery, yet it will generally be found that the diversion to other reduction works of ores suitable to stampmilling is comparatively slight and confined to such as are essentially unadapted for amalgamation.

The simplicity of the machinery of stamp milling, its long-proven adaptability to various docile ores and the noteworthy cheapness of the treatment render it pre-eminent among metallurgical methods of gold extraction. We hear continually of new inventions for the rapid pulverization of ore and the easy extraction of its contained gold. New processes are born daily but their mortality is very depressing. It may be that some heaven sent revelation may some day enable the metallurgist to extract 100% of the value in an ore at a cost insignificant when compared to the magnitude of the result, but we may well have grave doubts. The story of metallurgical progress proves it to have been evolutionary and not revolutionary. It is by the gradual improvement of established methods rather than by the sudden application of new and untried processes that success is soonest attained and longest maintained. The record of the chlorination process in America affords an instructive illustration. Although employed at Grass Valley, California, as early as 1857 it has

taken nearly 40 years to bring the knowledge of the best methods of its application to such a stage as to render its use technically successful and economically safe. From the slow and simple practice first borrowed from Plattner it has passed through many changes until to-day in the improved barrel process it has taken a firm hold upon a certain part of the metallurgical field. Cyanidation on the other hand illustrates in a marked manner the earlier struggles of all leaching methods and its checkered career is one commonly sheared by delicate chemical processes of ore reduction in course of successful evolution from uncertain beginnings.

The more familiar methods of stamp milling have long ago grown out of the uncertainties of early development. How gradual and how great that development has been, can only be realized by tracing the workings of human ingenuity through many centuries of endeavor from the first conception of the simple savage with his stone implement to the completed mechanism of the modern millwright. It is a story of the survival of that which was fittest for the work of extracting that gold which has ever been the ignis fatuus of humankind, it is a tale of the adaptation of methods to different environments which have included within their limits the arid deserts of Western Australia and the snowclad summits of Colorado. The inquiry into the divergent practice of scattered regions has indicated clearly that the key to the apparent contradiction involved in methods which seemed so opposed in principle is to be found in an earnest attempt to adapt methods to local conditions. The real principles —the bedrock ideas—of stamp milling are unchanging, but their successful application has created a growth of local variations which are discordant only when viewed without due consideration to diverse conditions.

No method of ore reduction is perfect, the metallurgist cannot dare to consider any particular process the Ultima Thule of technical progress, and in spite of the long period of development through which the stamp-mill has passed it needs no hesitation to assert that no milling plant exists which is perfect. It is hardly necessary to add that in the course of inspecting more than a hundred mills the writer has frequently met with those who considered their own plant impossible of improvement. The worst of all ignorance is the ignorance of our ignorance. The most experienced millman is usually very well aware that the improvements made in the past are merely the measure of the betterment attainable in the future.

Engineering is applied common sense, and we do not wonder to find that many of the alterations which render the mechanism of to-day superior to the rude appliance of yesterday are striking more for their ingenious utilization of simple principles than in their embodiment of complex considerations. If I should pick out any part of the stam pmill as more particularly illustrative of this truism, I would select the amalgamating table. Everywhere the sloping surface of copper plate or the outspread stretch of blanket serves as a gold saving appliance to supplement the variously successful extraction in the mortar box. The amalgamating tables are generally arranged in two series of which the upper one, called the apron, has a width approximately equal to that of the issue of the battery, and varies only between narrow limits, from 4 ft. 4 in. to 6 fet. Its length shows greater extremes, reaching from two or three feet to as much as 14 ft. Then comes the lower table, also termed the sluice or tail plate, which rarely is of a size equal to the apron, but more ordinarily, especially in California, has a width of about twenty inches, and a length of from 10 to 16ft.

The arrangement of these, obviously very important parts of the gold-saving appliances of a stamp mill, usually invites condemnatory criticism, sometimes even cynical derision. For what, I would ask, can be more absurd than to pass the pulp over a surface 5 ft. wide, extracting some of the coarse gold, and then to compel it to run within the confined width of 20 in. in the expectation of arresting gold less coarse, and, therefore, more difficult to arrest, than that which has been caught above? It ought to be obvious to ordinary common sense that the gold to be saved below the apron is of a kind which, because it has escaped the first effort to catch it, is necessarily more elusive than that previously saved, and that therefore conditions more favorable to its arrest than those obtained on the apron plate are required. The common actual practice would point to the contrary view, since after the pulp has slowly washed in successive waves over the wide surface of the upper table it is rushed through the narrowed confines of the lower. In several instances, moreover, I have actually found the sluice plate to slope at a steeper angle than the apron, with the result that the edges of the copper surface were scoured and their amalgam rubbed off by the rapid flow of sand and water.

What is evidently needed is a reversal of the ordinary method, the spreading of the pulp over an area of increasing width rather than its confinement within a narrowing space, such as makes the ordinary sluice much more of a launder for the rapid conveyance of the pulp than a device for the saving of any gold which may pass over it.

When traced back through the years it will be found that the use of this quite absurd arrangement sprang from the fact that it was borrowed from the placer miner, and that it originally formed a part of the alluvial diggers' gold-saving apparatus. River mining preceded vein mining, and in transferring his energies from the one to the other the miner was inclined to use as much as possible of the plant needed in the one industry for employment in the other. The sluice plate in the mill is a modified form of the sluice box of the gulch.

Notwithstanding the marked improvement made in the mechanical appliances of the typical western American stamp mill, tending chiefly to greater automatism of treatment, this particular feature remains a blemish and a defect for which there is no excuse save that "everlasting monkey" in man, in virtue of which the millman copies the methods of his neighbor without proper investigation into its merits or intention. No part of the apparatus of the mill is so cheap as the amalgamating plate. An old plate is always worth more than a new one, because of the gold which it absorbs in process of use. The fact that the bottom of a plate catches any amalgam in amount, however small, should be sufficient evidence that some is escaping which could be arrested by a further elongation or enlargement of the amalgamated surface. I have never seen a mill which had too much plate area; I have seen several which had too little. And in this connection I may be pardoned for mentioning the fact that in two instances where I have been called upon to endeavor to suggest means for an improvement in the gold extraction of a stamp mill, I have succeeded to a notable degree in doing so by the simple rearrangement or extension of the amalgamated copper plates.

No completeness of treatment is likely where no accurate knowledge of the results is secured. In most stamp mills accurate and systematic sampling is unknown. The estimation of the percentage of extraction is usually mere guesswork based on an occasional assay of a sample carelessly taken. As I write I remember only three instances of proper care in this department. They were the Harrietville mill (Australia) and the Empire and North Star mills (California). Establishments of a such a magnitude as the Homestake in South Dakota merit condemnation for an absence of proper system in this regard. Too many millmen are in utter ignorance of the real character of the results which they are obtaining, an ignorance which is as consolatory to a complacent self-satisfaction as it is injurious to the real interests of the proprietors of the mill.

It is impossible to become familiar with the work being done at stamp-mills scattered the wide world over without being impressed with the frequent waste of time and money incurred in the carrying out of experiments at one locality which have been made long previous in some other district. You may, for instance, find the mills of one region introducing for the first time a form of tappet which was thoroughly tested and found altogether undesirable at some other place a few years previous, or a millman in Australia may be designing a mortar to do certain work and of a pattern practically identical with one which was tried and found unsuitable in California a decade ago. The waste of experience, the going over ground a second time which has once been proven, the failure to use the results of careful tests made by others, this presents a subject which must often have impressed and saddened those who have investigated the struggles and endeavors which have been the stepping stones to metallurgical development.

There is a curious lack of intercommunication between those who direct the operation of mines and mills in various parts of the world. Although this is overcome in some instances by the reading of "The Engineering and Mining Journal," the "Transactions of the American Institute of Mining Engineers," etc., it nevertheless forms a serious bar to intelligent advancement. At many of the largest milling establishments you may find men in charge who are even proud of never having stirred from their own locality for a period which covers 10 or 20 years and may sometimes reach a lifetime. The world is moving, technical progress has made strides which have stamped our modern civilization with characteristics unknown to previous history. Is it not lamentable that men should stick in the mud in their own little hamlet, careless of what others may be doing, heedless of opportunities for improvement, because their minds are dulled by a sleepy belief that the workings of their own little practice is incapable of betterment?

Rhetoric apart, and in all seriousness, would it not prove profitable to many large proprietaries, on both sides of the equator, if they would occasionally send their captains of industry to investigate the methods of other regions, to see and to study, and possibly imitate, the results of experiments and improvements made by others in their own line of work?

There is reason to deplore the general rarity of careful investigation. The choice of screens, the use of certain chemicals, the employment of different metals for shoes and dies, matters such as these are ordinarily determined at haphazard, or by the ancient and venerable rule of thumb. Occasionally tests are made, but of such the majority are hopelessly vitiated by want of system and lack of accuracy. A man, for example, tries to find out which kind of screen to employ, so he fits up one battery with the one and the next battery with the other. He forgets that owing to the disposition of the rockbreaker one battery gets more of the fines than the other, he omits to note that in one mortar the dies are worn down and in the other they have been lately replaced, so that the issue in the two batteries differs by a couple of inches. A test under such circumstances is a snare and a delusion. The ordinary result is a mass of contradictory data which are only helplessly confusing.

There is a common repugnance among millmen to do any experimenting. This springs largely from the known futility of previous tests which were inconclusive because carried out under unequal conditions. For such a feeling those are to blame who imperfectly understanding what they were about, directed work whose object their subordinates failed to appreciate. The average millman may be stubbornly opposed to the trying of new methods, which are only partially comprehended by those advocating them, but he is, I believe, fair-minded enough to be willing to carry out tests which are based on an adequate comprehension of the conditions of the case.

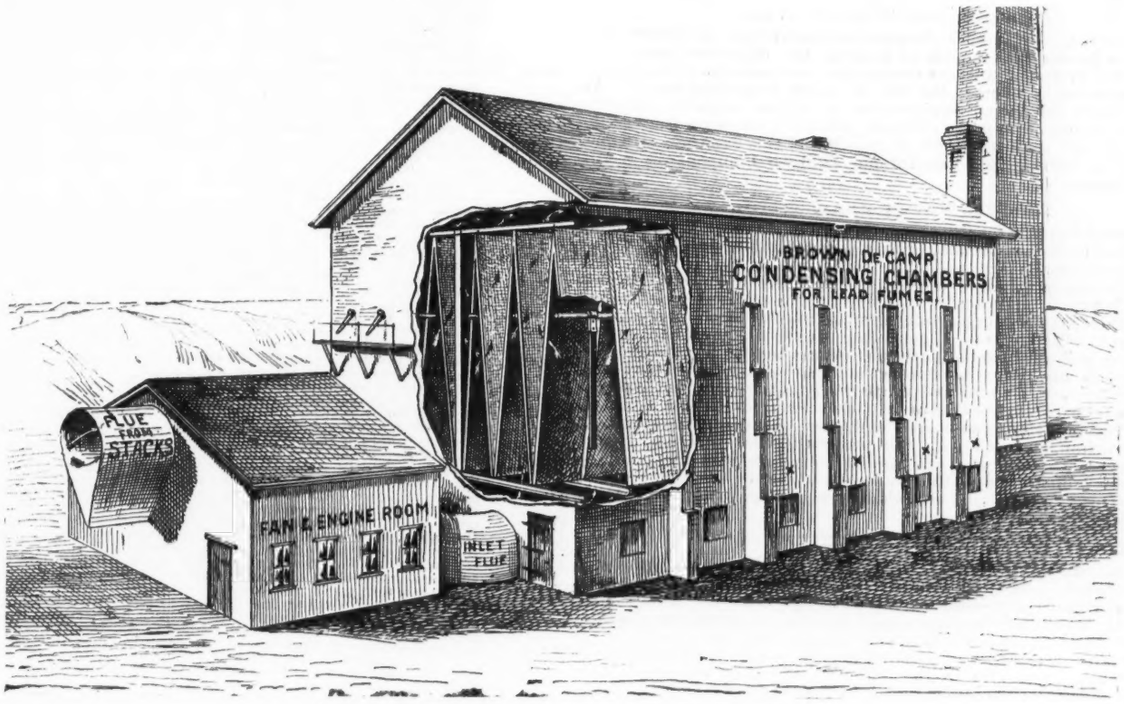
On the other hand, careful tests made to determine a certain factor in the milling problem when they are made under equal conditions, such as guarantee reliable results, are invaluable. In every mill there should be a reason for doing anything in a particular way. The millman should be able to show cause for having the height of drop just what it is, he should be in a position to explain why he cannot recommend a depth of discharge a couple of inches more or less than that actually in use, and so on. If uncertain why particular methods are in vogue he should by accurate experiment, as soon as circumstances permit, confirm their correctness, or replace them by others which he finds better. The practice of guessing twice and then dividing by two for further accuracy is one which can only conduct a man into a hopeless bewilderment between what he does know and what he thinks he knows.

(To be concluded.)

Coal Production in France.—The "Journal Officiel" has just published statistics concerning the production of coal in France during the first half of 1895. The output of coal reached 13,489,680 metric tons, being an increase of 99.685 tons over the corresponding period of 1894, and of lignite 212,424 tons, or a diminution of 21,347 tons as compared with the first half of 1894. Thus the total quantity raised amounts to 13,702,104 tons, or an increase over the corresponding period of the previous year of 78,338 tons. The output of coal this year is distributed as follows: Nord and Pas-de-Calais, 7.829,971; Loire, 1,727,542; Bourgogne and Nivernais, 980,483; Gard, 987,404; Tarn and Aveyron, 742,408; Bourbonnais, 546,755, Auvergne, 190,422; Vosges, 111,680; Creuse and Correze, 104,991; Herault, 102,678; Alpes, 97,084; West, 68,262; total, 13,489,680 tons.

THE BROWN-DE CAMP FUME COLLECTOR.

A new form of condensing chamber, patented by Horace F. Brown, of Chicago, and Lee De Camp, of Denver, which has been in operation at the Omaha & Grant Smelting Works at Omaha, Neb., for nearly a year, is giving great satisfaction. In general operation it is similar to well-known methods of catching the sublimed mineral from smelting fumes by first cooling the gases and straining out the mineral by means of textile fabric. This manner of collecting mineral from fumes has been practiced for the past fifty years, by means of bags and other arrangements, in connection with exhaust fans cooling the flues, etc. In construction it differs somewhat from what is commonly known as a bag-house, the straining fabric being arranged in a series of inclined planes, or peaked ceilings. Suspended between the converging walls of the peaked ceilings are oscillating shafts extending the entire length of the building and projecting a short distance through the walls. From these oscillating shafts a series of beaters are suspended, and by means of a lever, secured to the projecting end of the shaft on the outside of the building, these beaters are oscillated, striking the canvas walls with sufficient force to dislodge the accumulated mineral dust, which falls to the floor of the room. The accompanying illustration shows the construction of this collector.



THE BROWN-DE CAMP COLLECTOR FOR LEAD FUMES.

The flue leading from the regular dust chamber to the smelter plant is carried a sufficient distance to cool the gases to about 150° Fahr. The length of this flue depends on the number of stacks to be handled, but it should be at least 800 ft. long. In the condensing chambers now running at Omaha a 12-ft. Murphy ventilating fan, manufactured by Fraser & Chalmers, is used for exhausting the gases from the stacks, and at 200 revolutions per minute this is found to be ample for handling the fumes from 10 stacks, each 42 × 12 in.

From the experience of nearly a year the following data have been gained: The flue from the dust chamber or condensing chamber has an area of 64 sq. ft. Each compartment of the condenser building has an area of 29 × 99 ft. At 12 ft. above the floor line a series of I-beams placed 9 ft. apart form a footing for the frames used in constructing the peaked ceilings. Each stall or room has a capacity below the straining fabric of about 60,000 cu. ft., the ceiling of each stall or room containing about 40,000 sq. ft. of effective straining surface. It requires for each 42 × 120-in. stack about 16,000 sq. ft. of straining fabric for maximum duty, and for each stack of this size about 7 H. P.

It is estimated that under most favorable conditions there is a loss of about 6% of lead by volatilization. The actual saving in two compartments, having a total area of about 80,000 sq. ft., straining fabric, from seven stacks 42 × 120 in., averages a little over 100 tons of metallic lead per month, carrying about 10 oz. silver per ton. This amount is practically 6% of all of the lead charged into the smelter stacks, yielding a net income of about $6,000 per month at the present price of lead and silver.

For 10 stacks, four chambers of the size described are required, and they are so arranged that any one chamber of the system can be cut out for the purpose of cleaning up or making repairs, the three remaining chambers being ample for condensing the fumes. The straining fabric is a heavy, strongly woven cotton cloth sufficiently open to admit of the free passage of the gases, but close enough to strain out the mineral dust.

The work is so well done that, when but one stack for each 16,000 sq. ft. is in use, there is no visible vapor passing from the condensing chamber stack. This simple and effective device can be applied to lead smelters, zinc white works, and also to dry crushing gold and silver mills. In the process of roasting heavy sulphide ores there is too great an excess of sulphurous acid to admit of its use, but for condensing fumes from lead smelters it has proved a perfect success and a comparatively inexpensive device to keep up.

Owing to the facility with which the straining fabric can be shaken without endangering the life or health of the workmen, this form of construction is superior to the ordinary bag-house construction, where it is necessary for the workmen to enter the building for the purpose of shaking down the dust.

The dust that collects on the floor of the chamber consists of a large percentage, in bulk, of the unconsumed carbon or visible smoke. When this is accumulated to such a depth that it is necessary to remove it, it can be wheeled into a closed chamber and the carbon burned off by simply igniting it and giving it a sufficient amount of air. The leady portion mattes together very much in the form of coke, in which form it can be returned to the smelter as so much lead ore, or it can be sent direct to the refinery; the dust can also be burned in the chamber before removing if so required. For this purpose a series of flues are provided connected to a separate chimney for carrying off the gases of combustion, the outlet to the main stack and the inlet to the exhaust fan being closed. There is no skilled labor required in operating the condenser aside from that of the engineer who takes care of the engine and fan. It requires about 20 minutes for a half-grown boy to thoroughly shake the dust from two chambers, and this is done as often as the pressure gage indicates that the meshes of the fabric are becoming filled so as to create a back pressure.

The Chicago Drainage Canal.—The report of the Board of Engineers detailed by the Secretary of War to report upon the probable effect and operation of the Chicago drainage canal upon the lake and harbor levels, and upon the navigation of the great lakes and their connecting waterways has been made public. There is nothing to show, the report says, that the consent of Congress has been asked for this enterprise, and it is certain that it has not been treated as an interstate or international affair. With this established fact it is impossible to think that supervision of the United States will not extend to the canal in due time. This will become necessary as soon as it becomes a part of the system of navigable waterways. If the new outlet reduces the levels of Lakes Michigan and Huron about 6 in., that effect will be produced in about two years, it not being a question of many years, as some suppose. The board feels very sure, therefore, that: First, the drainage canal is not solely a State affair, but a national one. Second, the tapping of the lakes must affect their levels. If the level of the lakes should be reduced, vessels would have to load accordingly. The trustees of the drainage company now contemplate the abstraction of only 300,000 cu. ft., but after the canal is opened it is assumed that 600,000 cu. ft. per minute will be drawn from Lake Michigan. This would lower the level of all the lakes of the system except Lake Superior, and reduce the navigable capacities of all harbors and shallows throughout the system. Under the laws of the United States these changes in capacity cannot be made without Federal authority, and to enable the executive officers of the United States to act advisedly in the matter, it is necessary, in the opinion of the board, not only that measurements be taken, but that the money cost of restoring the navigable depths in channels and harbors be carefully estimated. The navigable capacity of all harbors and channels on the great lakes below St. Mary's Falls would be injuriously affected by the proposed canal, and the navigability of the inner harbor of Chicago would be made difficult by the introduction of a current therein.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

SUPREME COURT OF MISSOURI.

Prohibiting Employees from Joining Labor Union.—The Act of March 6th, 1893, making it unlawful for an employer to prohibit an employee from joining, or to require an employee to withdraw from a trade or labor union or other lawful organization, is unconstitutional, as being special legislation. A citizen cannot be deprived of a right secured by the constitution by a statute passed as a police regulation.—State vs. Julow, 31 Southwestern Reports, 781.

SUPREME COURT OF NEBRASKA.

Risk in Use of Dangerous Machinery.—Where a servant in obedience to the requirements of his master incurs the risk of machinery or appliances which, although dangerous, are not of such character that they may not be safely used, by the exercise of reasonable skill and caution, he does not, as a matter of law, assume the risk of injury from accident resulting from the master's negligence.—Lee vs. Smart, 63 Northwestern Reports, 940.

COURT OF CIVIL APPEALS OF TEXAS.

Apparent Risks.—Where the dangers consequent upon negligence of an employer in having work done in an unusual and dangerous manner are apparent to a person of ordinary intelligence, an employee engaging voluntarily in the work assumes the risk of injury from these causes. An employer is not liable to an employee for an injury resulting from the physical weakness of a fellow servant, when the employee has had the same opportunity as the employer of knowing of this weakness.—Bonnet vs Galveston, Harrisburg & San Antonio Railroad Company, 31 Southwestern Reports, 525.

SUPREME COURT OF MASSACHUSETTS.

Taxation of Machine for Breaking Stone.—A machine for quarrying and breaking stone for macadamizing roads and similar purposes, is not employed in a branch of manufacture, within the statute, providing that all personal property shall be assessed to the owner in the city or town where he is an inhabitant on May 1st, except all machinery employed in any branch of manufactures, which shall be assessed where it is situated or employed. The business of quarrying stone and breaking it up for use on roads and other similar purposes, cannot be deemed a manufacturing business any more than mining coal and breaking it up into merchantable sizes, or farming and cutting ice. Quarrying and dressing granite could hardly be said to be manufacturing it, though moulding clay into different sizes and shapes and then burning it fairly may be said to be manufacturing brick. Still less could simply crushing granite into smaller and smaller pieces be said to constitute manufacturing, as that word is ordinarily used, though there is a remote sense in which it may be true.—Wellington vs. Inhabitants of Town of Belmont. 41 Northwestern Reports, 62.

Pig Iron Duties in Belgium.—The Union des Charbonnages, Mines et Usines Metallurgiques of the Province of Liege has petitioned the Belgian Minister of Finance to re-establish the temporary duty-free admission of foundry pig required for making a good mixture of metal for cast-iron pipes and similar articles, this admission having been suppressed by a recent measure. The petition urges that the exaction of the duty is calculated to deal a severe blow to the foundry trade, as an increase of 2 fr. per ton in the cost of the raw material represents more than 2% of difference in the selling price of cast-iron pipes, which has sometimes been sufficient to decide the granting of a contract.

Japanese Imports and Exports of Minerals.—The mineral imports of Japan for the year 1894 according to a return made to the British Foreign Office included 36 357 tons of pig iron; 27,880 tons of bar iron; 15,073 tons of nails; 13,217 tons of plate and sheet iron; 2 967 tons of merchant steel; 34,388 tons of steel rails; 540 tons of tin plates; 278 tons of tin, and 3,130 tons of zinc. In addition to the metals recorded above there were imported also locomotives and railroad cars to the value of $949,300; machinery valued at $2,297,800; and steam boilers valued at $117,665. A special item which shows the Japanese preparations for war was the importation—that is the transfer to the Japanese flag—of steam vessels valued at $4,485.770, while war material was brought into the country to the amount of $202,750. The imports of kerosene oil were 55,643,719 gals., an increase of 5,880,327 gals. over 1893.

The exports of mineral products from Japan were 1,701,130 tons of coal; 15,173 tons of copper; 12,561 tons of sulphur, and 1.598 tons of antimony. All these items show an increase over 1893 with the exception of copper, which was very nearly the same in both years. The exports of coal increased 195,717 tons. Besides the minerals there was exported bronze and metal ware valued at $387,280.

A Safety Dam for Mines.—At the recent meeting of the German Mining Congress, in Hanover, there was exhibited a new contrivance, the invention of Richard Wagner, of Michalkowitz, in Upper Silesia. This was a portable pneumatic safety dam for mines. The importance of rapidly extinguishing an underground fire, or of restricting it to a confined area, is obvious. The usual method is to erect a safety dam with planks and cover these with mortar. There are, however, the drawbacks that the material is not at hand when wanted, and hours are frequently wasted before it is procured. In the meantime great damage may be done. Further, it is impossible to fit the planks exactly across the roadway. Consequently the first dam is usually very defective, and it frequently happens that a series of dams have to be built one behind another. All these drawbacks are, it is claimed, obviated by the use of the new portable safety dam. It can be set up without delay, and requires only two men. It fits any level, provided that the sectional area is not more than ninth-tenths of its own. A brick or wood dam can at once be erected before it. Briefly described, the apparatus consists of two parts, the dam proper and the blast. The former consists of a frame with four folding legs serving as a support for a bag of durable airtight material resembling an air cushion, which, when inflated, forms a wall 16 in. thick, and when not inflated wraps round the frame. The blast is supplied by portable double-acting bellows worked by hand. The price of the dam is $75 to $150, according to size.

PATENTS RELATING TO MINING AND METALLURGY.

United States.

The following is a list of the patents relating to mining, metallurgy and kindred subjects issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

TUESDAY, OCTOBER 8TH, 1895.

547,473. Hydro-carbon Burner. Cortland Ball, Indianapolis, Ind. Combination of a retort or generating coil, a mixing flue or shell surrounding the vapor escape pipe, an air flue or mixer having a flaring top surrounding the first flue, and a flame deflector supported above and provided with overhanging edges adapted to throw the flame from the burner, down upon the retort.

547,492. Kiln. Fred Macarthy, Sayreville, N. J., assignor of one-half to the Sayre & Fisher Company, same place. An updraft kiln comprising main walls and a floor forming a chamber, a furnace arranged wholly within the main walls of the kiln and having openings in its side walls and also having its inner end open, a V-shaped wall extending upwardly from a point slightly above the furnace grate to the crown thereof and having its apex arranged in the inner, open end of the furnace so as to form divergent escape flues and enable it to divide the furnace products as they pass from said open end.

547,496. Hydraulic Mining Apparatus. Alexander McDougall, Duluth, Minn. An improved dredging apparatus, comprising a scow, a pipe mounted in a collar pivoted in a framework carried on said scow so as to swing back and forth in engagement with the bottom and be capable of vertical adjustment, and a suction pipe inside said swinging pipe.

547,519. Hydraulic Air Compressor. John J. Keenan, Chicago, Ill., assignor to the Keenan Brothers Manufacturing Company, same place. Combination of water and air cylinders, a reversing valve mechanism for the water cylinder and means for operating said valves in an automatic manner, substantially as set forth.

547,558. Pumping Engine. Albert P. Massey, Watertown, N. Y. In a pumping engine operated by a reciprocating motor, the combination of such motor with the pump piston by means of a lever suspended by and oscillating on two links which swing on stationary bearings located so that one link forms the fulcrum of the lever during the early part of the stroke, and the movement of the lever shifts the virtual fulcrum gradually from one link to the other during the traverse of the piston.

547,582. Hydrocarbon Burner. Edwin G. Mummery, John S. Sherman, and George H. Harms, Detroit, Mich.; said Mummery assignor to Paul C. Dulitz, same place. In a hydrocarbon burner the combinations of a base and partitions forming a series of chambers with air inlets.

547,568. Adjuster for Oil Well Pumps. Sidney D. Peterson, Tidioute, Pa., assignor of one-half to George B. Peterson, same place. In an adjusting mechanism for the polish rod of oil or artesian wells, a stirrup having its lower end closed and provided with a screw threaded central perforation for the reception of a threaded adjuster rod, an adjuster head mounted on the lower end of said rod and provided with a socket for the reception of a coupling head on the upper end of the polish rod.

547,587. Method of Extracting Zinc from Complex Ores. Carl V. Petraeus, Joplin, Mo., assignor to Oliver H. Picher, same place. The method of separating zinc from sulphate ores consists in crushing the ore, roasting it, dissolving out the soluble zinc salts in water, adding a solution of sulphuric acid to dissolve out any zinc oxide, introducing live steam to the mixture of ore and solvents to thoroughly mix and heat them, separating the solution of sulphate of zinc from the insoluble parts of the ore, adding chloride of calcium to the solution to convert the zinc into a chloride, separating the solution of zinc chloride from the precipitated calcium sulphate, and finally adding quicklime to the solution of zinc chloride to precipitate the zinc as zinc oxide.

547,601. Earth Boring and Drilling Machine. Walter E. Everitt, Buffalo, N. Y. Combination with the screw bar, the pivoted hammer, and its operating mechanism of two rubber cushions, one secured between the collar and box located near the rear end of the screw bar and the other made in two halves with the two portions of the sleeve, the upper portion of which is mounted in a cover pivoted to the top of the upright supporting piece.

547,640. Concentrator. Jehu Jacobs, Henley, Cal. Inclined suspended tables over which the material to be separated is caused to flow, a longitudinal crank shaft and a transverse shaft geared one to another and connections from the longitudinal shaft to the table, a cam on a transverse shaft, a fulcrumed lever having an arm connected with the table and a second arm in the path of said cam whereby the tables are caused to oscillate sidewise and endwise, and are given a slight lifting motion.

547,672. Excavator. Alexander McDonald, Cambridge, Mass. An excavator, provided with one or more revoluble picks on parallel shafts mounted on a supporting frame for cutting and loosening the material, and an endless carrier into which the material as it is loosened by the picks falls by its own gravity, to be carried off and discharged.

547,674. Re-agent for Working Gold or Silver Ores. Eloy Noriega, Mexico, Mexico. Patented in England October 4th, 1892, No. 17,661. This reagent for the treatment of argentiferous and other ores is formed by combining a chloride, an acid, the sulphate of a metal, and the metal which forms the base of the said sulphate, the base of the chloride being stronger than that of the sulphate.

547,723. Liquid Raiser. Emil Kaselowsky, Berlin, Germany. Filed July 5th, 1894. Patented in England June 15th, 1891, No. 11,623. In a power-plant for raising liquids from mines by a water motor arranged within the mine, the combination with the force-conduit and the waste-conduit of two regulating accumulators inserted into said conduits one at or near the end of the force-conduit, the other at or near the commencement of the waste-conduit.

Great Britain.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy:

WEEK ENDING AUGUST 31ST, 1895.

15,626 of 1894. T. Thomas, Pontypridd. In miner's safety lamps, a special rivet-lock to prevent tampering after locking.

18,284 of 1894. A. & Z. Daw, London. Improvements in the valve gear of the Daw rock drill.

21,245 of 1894. R. Fegan, London. In smelting ores, compressing the ores into blocks with naphthaline and the distillation products of colophony or paraffin.

9,101 of 1895. G. M. Gross, Chicago, U. S. A. In stamp mills with stamps arranged concentrically, gear for turning the stamps, and so obtaining a grinding as well as crushing action.

13,021 of 1895. F. Baum, Herne, Germany. Coal washing plant for small establishments; conveying the small coal and water to the storage by pumps, and bringing back the clarified water.

WEEK ENDING SEPTEMBER 7TH, 1895.

16,105 of 1894. R. Heathfield and W. S. Rawson, London. Preparing iron plates for electro depositing zinc upon them by preliminarily coating them with an amalgam of zinc formed by electrolyzing a solution of sulphates of mercury and zinc.

16,947 of 1894. W. Patterson, Gateshead-on-Tyne. Coal cutters; detailed developments in Pat. No. 15,533 of 1894.

18,003 and 18,146 of 1894. H. L. Tulman, London. The use of zinc in the form of dust or fume for precipitating gold from cyanide solutions.

21,792 of 1894. E. Meyer, Berlin. Disintegrating basic slag by adding alkaline carbonate or silicate.

PERSONAL.

Mr. Daniel Shoemaker, a well-known mining man of Butte, Mont., has gone to the Transvaal.

Mr. L. M. Smith has been appointed superintendent of the Geyser Mining Company, at Mercur, Utah.

Mr. L. F. J. Wrinkle is about to resign his position as superintendent of the soda works at Owens Lake, Nevada.

Mr. Hornby Lewis, of Liverpool, England, has been visiting the mines of the Kootenay region in British Columbia.

Mr. Frank Longmaid, manager of the Penobscot mine near Marysville, Mont., has removed from that town to Helena.

Mr. John Williams, mining engineer, started from New York this week on his way to Denver, Colo., on professional business.

Mr. John B. Steiger, well known as a mining engineer, left Butte, Mont., last week for Johannesberg, in the South African Republic.

Bergrath Schmeisser, whose work on the Transvaal gold mines attracted much attention in Europe, is now in Western Australia, studying the gold deposits of that colony.

Dr. A. R. Ledoux, the well known metallurgical engineer of New York City, who recently visited the Trail Creek country and Montana, has gone from Butte to Denver, Colo.

Prof. George W. Maynard last week left New York for Colorado, where he will remain for a short time. His address will be at the Brown Palace Hotel, Denver, until further notice.

Mr. Sakujiro Fujioka, a Japanese mining engineer who is connected with the Ashio copper mines in Japan, has been visiting Butte, Montana, and inspecting the improvements made in the mines and reduction works there.

The Lehigh University Club, of New York, will give a dinner in honor of Dr. Thomas M. Drown, the new president of the university, on October 25th. Several prominent men and a large number of alumni will be present.

Mr. T. A. Rickard, mining engineer and metallurgist, is at present in Cripple Creek, Colo., on professional business, and before his return proposes to make a pretty thorough investigation into the geology and ore occurrences of the camp.

Mr. Chas. B. Kingston, mining engineer, formerly of Aspen, Colo., is now at his home in Montreal, Canada. He expects to leave shortly for London, Eng., from whence he will go to Western Australia as manager of an English mining company operating in that country.

Mr. John Enequist, whose papers on chemical topics in the "Mineral Industry" have attracted much attention, delivered an interesting lecture in Jersey City on the evening of October 17th, on the impurities found in the Passaic river water, which is supplied to that city.

Colonel George H. Mendell, the ranking member of the Engineer Corps of the United States Army in length of service, was placed on the retired list on October 12th, having reached the age of 64. He was born in Pennsylvania, from which State he entered the Military Academy in 1848. At present he is division engineer in charge of works on the Pacific coast.

Mr. D. J. Russell Duncan, formerly senior partner in the firm of Duncan Brothers, engineers, Westminster, London, and late managing director of the Steel Pipe Company, Limited, has commenced business at 30 Boulevard Haussmann, Paris, France, as agent for the sale of American machinery and specialties; also for the sale of inventions protected in France.

OBITUARY.

Frederick H. Cruso, a civil engineer, died in South Orange, N. J., on October 11th, aged 74 years.

Daniel Guard Wiggin, a well-known mining engineer, died in Bethlehem, Pa., on October 4th, aged 67 years. For some time past he had been connected with the Bethlehem Iron Company.

Robert Miller, a young civil engineer, who was badly burned at the recent explosion in the Dorrance coal mine at Wilkes-Barre, Pa., died from his injuries on October 10th. He was only 21 years old.

Thomas Lester Thomas, an iron manufacturer of England, died on October 13th at the residence of his brother, A. L. Thomas, of Lancaster, Pa., whom he was visiting. He was a member of the firm of C. W. Lewis & Company, iron manufacturers of Batman's Hill, England, and had various interests in this country also. He had contemplated returning home in a few weeks.

Elisha P. Ferry died at Seattle, Wash., on October 14th. He was born at Monroe, Mich., in 1825. He studied law there and at Fort Wayne, Ind., and was admitted to the bar in 1845. The next year he removed to Waukegan, Ill., where he engaged in the practice of his profession. He resided in that place until July, 1889, when he removed to the Territory of Washington. In 1869 he was appointed Surveyor-General of Washington Territory, and three years later was appointed Governor of the Territory, and reappointed in 1876. In 1889 he was chosen Governor of the new State of Washington. Recently he had given his attention chiefly to his banking business.

Franklin Leonard Pope, the well-known electrician, was killed by an electrical shock at his home in Great Barrington, Mass., on October 13th. He was was born in Great Barrington in 1840, and was among the earliest practising electrical engineers in the country. In 1865 he explored the country between British Columbia and Alaska, surveying a route for the Collins overland telegraph, which was subsequently partially built and abandoned. Mr. Pope made many important inventions for the printing press telegraph and in electric block railroad signals. He was a patent solicitor, making electrical inventions a specialty, and for several years held the office of patent attorney for a telegraph company. He was a prominent author and writer on electrical matters. For several years he has been retained as expert in important patent suits brought before the United States courts. He was a charter member of the American Institute of Electrical Engineers, and was elected its president in 1886, succeeding the late Dr. Norvin Green. The reconstruction of the Great Barrington electric plant was one of his recent undertakings.

SOCIETIES AND TECHNICAL SCHOOLS.

American Society of Civil Engineers.—At the regular meeting in New York, October 16th, a paper by Thomas C. Clarke, entitled "Effect of Depth Upon Artificial Waterways," was presented. This paper was briefly discussed by members present.

Civil Engineers' Society of St. Paul.—A regular meeting was held October 7th. An invitation from M. Jules Lermina, secretary, to join the International Literary and Artistic Association, was referred to Mr. Estabrook and Mr. Munster. A communication from Mr. Thos. Egleston touching a standard meter wire gauge, was referred to Messrs. Crosby, Lyon, Hogeland, Toltz and Merryman. Mr. Hew Miller was elected to membership. Mr. A. O. Powell read an interesting and fully illustrated paper on "Sluice Gates and Movable Dams of the 'Bear trap' Type." The bear-trap gate is an American device of 80 years ago, but lately modified and improved. The French condemned it after an experimental trial of a gate wrongly proportioned, apparently considering it unworthy of scientific study. Mr. Powell has investigated the bear-trap gate mathematically. Mr. R. A. Lang, of Eau Claire, Wis., a builder and inventor of bear-trap gates of 18 years' experience, briefly touched on a few points of interest.

Engineering Association of the South.—At the meeting in Nashville, Tenn., October 10th, nominations were made for officers to be voted for at the annual meeting. The ballots will be canvassed November 14th. Professor Schuerman exhibited and described two instruments of his own invention, the "Computer" and the "Profilograph." The computer is a device for performing mechanically all kinds of arithmetical and trigonometrical calculations, giving results to the fourth significant figure (by estimation to the fifth). It utilizes the principle of logarithms, and the unit of measurement is an angle instead of a length, which has heretofore alone been used in the construction of slide rules. It can also be used in place of the ordinary engineer's tables, as from it can be found the logarithms of numbers and trigonometric functions as also the natural functions. All these are given in a circle 8 in. in diameter. The profilograph is an instrument to be attached to a vehicle of two or more wheels (bicycle or wagon) and is intended to draw automatically the profile of the ground over which the vehicle passes. Motion along the surface is resolved into its vertical and horizontal components, the mechanism causes a recording pen to move proportionally to the vertical component, while profile paper is moved proportionally to the horizontal component; these two motions of recorder and paper are at right angles to each other, and the curve drawn will represent the actual profile of the surface.

American Chemical Society, Lehigh Valley Section.—The fall meeting was held at the Lehigh University, South Bethlehem, Pa., October 11th. Prof. Edward Hart, president of the local section, presided. A paper was read by Professor Nason, of Troy, on "Bacteriology versus Chemistry, in the Decision of the Purity of a Drinking Water." This was followed by a paper by G. H. Meaker, chemist of the Andover Iron Company, on the "Standardization of Iodine," and one by Porter W. Shimer on "A New Device for Sampling Stock Piles of Pig Iron." A paper was read by Albert Ladd Colby, metallurgical engineer of the Bethlehem Iron Company, on the "Rapid Methods for the Analysis of Iron and Steel," perfected by C. A. Buck, chemist of the Bethlehem Iron Company, and himself, and in use in the company's laboratory. He surprised many of the noted chemists present by showing in how short a time they could accurately determine the various constituents present in iron and steel, and of what great practical value these rapid analyses were to the various departments of the works. He showed that the number of determinations made in their laboratory in one week amounted to 2,444. At the close of his paper Mr. Colby presented to each of the visiting members, with the compliments of the Bethlehem Iron Company, a novel souvenir of the meeting, which consisted of one of the armor plate washers manufactured by the company. Every one was stamped with the date and place of meeting of the Lehigh Valley Section of the American Chemical Society and also the name of the person to whom it was presented, and in the center was engraved, "Accurately Analized for Carbon in 12 minutes, Manganese in 10 minutes, Phosphorus and Silicon in 30 minutes." They were handsomely polished and nickel plated. Mr. Thomas Tyrer, president of the Society of Chemical Industry, addressed the meeting. He expressed his appreciation of the hospitality accorded to him by the American Chemical Society, and he promised to show what English chemists could do in this line if his American cousins would attend the meeting of the Society of Chemical Industry in London next summer. The session closed with a vote of thanks to Robert H. Sayre, vice-president of the Lehigh Valley Railroad, and Robert P. Linderman, president of the Bethlehem Iron Company, for the courtesies extended to the societies.

Engineers' Club of Philadelphia.—At the regular meeting, October 5th, the tellers announced that the following had been elected to active membership in the club: Messrs. George H. Birnie, James M. Dodge, E. J. Kerrick, and Charles Piez. The house committee announced the improvements that had been made in the furnishings and method of heating the club house during the vacation months; and, in the absence of the chairman of the library committee, the secretary explained, in answer to a question, that work had been begun in arranging the library so that it could be easily used for reference, and that this work would be rapidly pushed to completion. Mr. John Birkinbine, chairman of the special committee appointed for that purpose, presented a memorial of the late Eckley B. Coxe, which was accepted with the thanks of the club to the committee, and ordered to be spread upon the minutes. Mr. William H. Dechant read a paper on the "Submerged Pipe-line for the Pennsylvania Sanitary Sewerage Company, at Reading, Pa.," fully describing the method of constructing the submerged pipeline across the Schuylkill River at Reading. The width in this particular part of the river along the pipe-line is about 400 ft. and the deepest part about 10 ft. below extreme low water, the average depth being about 8 ft. A 30-in. cast-iron pipe was used, weighing a little over two net tons per length of 12 ft. A channel was excavated across the bed of the river for the pipe, so that the bottom would be about 2 ft. below the ordinary river bottom. Previous soundings with a pointed steel rod had shown the bed rock to be far enough down to allow the proper depth of trench, although the rock was scraped at several points in the dredging. The line of pipe was laid by first joining the sections suspended from trestle work across the river by means of long screw rods, attached to each pipe so that the entire length occupied the same position that it was to have in the bottom of the trench. The whole thing was then lowered uniformly by a man at each screw keeping time in the turning. A flat scow was arranged to carry each section of pipe from the shore to the trestle work with a trunnion in its centre, so that the pipe could be turned around into almost any position to anchor it along the line of trestles. The trunnion was so made that the operator could move the pipe some distance endwise also. The methods of setting the trestle work, suspending the sections of pipe from the screw rods, making the joints and lowering the pipe were described in detail. Three days were occupied in the erection of the trestles and four more in getting the pipe ready for lowering. The lowering occupied altogether about 5 hours. The paper was briefly discussed by members present.

Pennsylvania State College.—A unique structure is now in process of construction at the Pennsylvania State College, which should prove of great benefit to the quarrymen and architects of that and neighboring States. It is an obelisk 20 ft. high and 5 ft. square at the base, composed of more than 200 pieces of the representative building stones of the region, tastefully arranged for a display of their nature, appearance and durability. These have been contributed by enterprising quarrymen and others, and will form not only an advertisement for the quarries, but an attractive compendium of information. By arranging the stones in courses so as to exhibit their geologic correlation, the educational value of the obelisk is further enhanced. Every course will represent a period, its four or more component blocks being selected with care as typical of that formation irrespective of the counties from which the same were quarried. Thus a beautiful specimen of marble from Mifflin County with a limestone from Monroe County is reposing upon characteristic specimens from Niagara Falls and Bedford County. Again, a slab of sandstone from the coal mines at Dudley, donated by W. H. Sweet, lies in the same course with its equivalents from Luzarn, Tioga and Washington Counties, the keystone carved upon the face being a fitting symbol of the relation which the Broad Top region bears to the two divisions of coal measures of the State on either side of the great anticlinal arch of the Appalachian chain. The courses are laid in geologic sequence with the granite and serpentine of Chester County at the base, the cement stones of Lehigh

County higher up and the oil-bearing Dunkard sand near the top, surmounted by a specimen from the great Cornwell deposit of magnetite. Upon the individual members of the series are stamped the number and symbols by which their respective formations were designated by the second geological survey of Pennsylvania, thus presenting on their face every possible information to the visitor. In the selection of specimens care has been exercised to procure, as far as possible, characteristic materials, and in this the quarrymen have shown their appreciation by a generous assistance. Further contributions are looked for, and, when completed, the polylith should be an ornament of great utility, serving many purposes, besides enabling Professor Ihlseng to respond to applications for information from those in the building trade. This latter will be furthered by the preparation and distribution of illustrated descriptive pamphlets, containing a brief geological history of the State, together with accounts of the quarries represented in the obelisk and of the stone composing the column. The bimonthly "Mining Bulletin," issued by the college, will supplement the information given by the pamphlets.

INDUSTRIAL NOTES

The Falcon Bronze Company, lately organized at Youngstown, O., is putting up a large plant, and will soon be ready for work.

Bromell, Schmidt & Co., at York, Pa., recently shipped a large steel smoke-stack to Hazleton, Pa., for the Lehigh Valley Coal Company.

The Lloyd Booth Company, at Youngstown, O., is extending its foundry and machine shop, both departments being overcrowded with work.

The Pottsville Iron and Steel Company has received the contract for furnishing $150,000 worth of structural iron for the new Baltimore Court House.

Grace Furnace, near Youngstown, O., owned by the Brier Hill Iron and Coal Company, is being relined and repaired, and will go into blast early in November.

The Bethlehem Iron Company has shipped 10-in. gun material, weighing 42 tons, to the Watervliet Arsenal, Troy, N. Y., and 4 and 5 in. material, weighing 17 tons, to the Washington Navy Yard.

New Leyner air compressors and drilling plants have lately been placed in the Strong mine at Victor, in the Cripple Creek district, and in the Dew Drop mine at Warf, in Boulder County, Colo. Each plant is of two drills capacity.

The Berlin Iron Bridge Company, of East Berlin, Conn., has just completed a highway bridge over Still River, at New Milford, Conn., consisting of one span of 170 ft., with a roadway 20 ft. wide in the clear. The bridge is 105 ft. above the bed of the river.

The machinery is being placed in position in the new plant of the Finished Steel Company at Youngstown, O., which will be operated under patents held by C. Seymour Dutton and Philip Haas. It will be ready to fill orders by the middle of November.

The Clayton Air Compressor Works, New York, have lately sold several large air compressors to railroad companies for use in supplying air for the transmission of power in the shops for various purposes. The use of compressed air in shops is rapidly extending.

The Saxton Iron Company has been incorporated with $150,000 capital stock to operate the Powell furnaces at Saxton, in Bedford County, Pa. It is said that work on repairing the furnaces will be begun at once. The directors are Jacob Tome, Port Deposit, Md.; John W. Moffy, Lucien Brown, John F. Craig, and William W. Kurtz, of Philadelphia. The office will be in Philadelphia.

There is now offered for sale the brass and foundry plant at Lorain, O., formerly operated by the United States Brass and Foundry Company and the Lorain Manufacturing Company. It is the largest of its kind in the country and is idle owing to the winding up of the companies that owned it. The plant is said to have cost nearly $500,000, and can probably be bought for a small fraction of that sum.

The Chilean Government, which is about to reorganize its School of Mines at Santiago, has bought the concentrating plant exhibited by the firm of Fried. Krupp Grusonwerk, of Madgeburg-Buckau, Germany, at the Santiago Mining Exhibition. In this way the School of Mines is enabled to make concentration tests with the help of the most modern and approved machinery. In Lima there is a similar school of mines, which has been provided for in like manner by the Peruvian Government.

Bids were opened at the Navy Department at Washington recently for furnishing forgings for thirteen 5-in. and twenty-seven 4-in. rapid fire guns. The Bethlehem Iron Company offered to furnish the forgings for 29c. per pound. The Midvale Steel & Iron Company offered to furnish the 4-in. forging at 28½c. per pound and the 5-in. at 30c. per pound. These guns, when finished, will complete the armament of all the vessels so far authorized with the exception of the big guns, of which eight 8-in. and eight 13-in. will be required.

The bursting of a fly-wheel and partial wreck of the Hudson Electric Light Company's station at Hoboken, N. J., recently, was apparently caused by a mistake. It seems that a short circuit on the line had blown the fuses, and during their replacement the engineer had slowed down the speed of the engine by raising and holding up the governor. The new fuses had no sooner been replaced, however, than they blew again, and the engineer, becoming "rattled," in order to slow the engine down again, held the governor down, and the engine raced until the fly-wheel burst. The unfortunate engineer paid with his life the penalty of his carelessness. The Hudson Electric Light Company immediately ordered the Philadelphia Engineering Works to replace this wheel with another constructed exactly like it. This, together with the circumstances of the "accident," shows very plainly there was no fault in the construction, and that the methods and work of the company are appreciated.

The Niagara Falls Power Company has contracted with James Leffel & Co., of Springfield, O., for four of their improved double-discharge horizontal shaft turbine wheels of 7,500 H. P. capacity, which is far the largest head under which turbines of large capacity have ever been applied in this country or elsewhere. These wheels will drive eight large electrical generators, one being placed on each side of each wheel, connecting direct to the horizontal shaft of the turbine, without gears or belting, the electrical current being used for power and lighting purposes. This is the second large order for turbines built by James Leffel & Co. for Niagara Falls, there being already several of their wheels of 1,200 H. P. each in the Cliff Paper Company's new mills, located at the foot of the cliffs, near the tunnel. The Leffel Company is building also four of the "cascade" wheels for one company, to be operated under 730 ft. head, part of these wheels being connected direct also to generators for power in mining operations. The cascade wheel is essentially different from the turbine, operating upon the impulse and reaction principle. These cascade wheels will have an aggregate capacity of 600 H. P.

The mining department of the Edward P. Allis Company, Milwaukee, Wis., is very busy, having 1,500 men on the pay rolls, and is busily engaged in preparing for shipment the following contracts: A steam hoisting outfit and concentrating plant for F. Lopez y Gutierrez, of San Luis, Mexico; a deep mine pumping outfit and concentrating plant for Maximiliano Damm, of Durango, Mexico; a 100-ton concentrating plant for the Byron N. White Company, of Three Forks, British Columbia; an air compressor and sinking pump for the Kootenay Mining Company, of Pilot Bay, British Columbia; a 10-stamp free milling gold plant for the Giles Gold Mining and Milling Company, of Boulder, Colo.; an air compressor for the Standard Mining Company, of Wallace, Idaho; a copper smelting plant for the Copper Queen Consolidated Mining Company, of of Bisbee, Ariz.; a copper smelting plant with concentrating machinery for the Detroit Copper Mining Company, of Morenci, Ariz.; a 20-stamp gold mill for the Idaho Yellow Jacket Mining Company; a 5-stamp gold mill and power plant for the Crow Peak Mining Company, of Spearfish, S. Dak.; a hydraulic hoist with Pelton wheel for the Bunker Hill & Sullivan mine, near Kellogg, Idaho; a lead milling plant using rolls for the John F. Lewis Company, of Philadelphia, Pa.; an 18 by 36 in. Corliss steam plant for the Silverton (Colo.) Mining and Smelting Company; and a roller milling outfit and steam plant for the Sunshine Mining Company, of Salt Lake, Utah.

The Ingersoll-Sergeant Drill Company, New York, has just received a large order for a complete plant of air compressing machinery for running drills, engines, pumps, etc., on the Jerome Park Reservoir work, New York City. The contract for the construction of the reservoir was awarded to Mr. J. B. McDonald at $5,473,060. It involves the removal of upward of 3,000,000 cubic yards of rock. The contractor has since the letting of the work made a thorough investigation looking to a determination of the question whether machinery for excavation can best be run by steam, or from a central compressed air plant. The central plant system has been adopted as the best and cheapest, saving largely in labor and fuel. The plant made by the Ingersoll-Sergeant Drill Company and adopted by the contractor involves the use of compound condensing Corliss air compressors run by high-class boilers transmitting and distributing compressed air at 80 lbs. pressure throughout the work. It is intended to use a battery of several air compressors placed side by side, the unit adopted being a duplex compressor with steam cylinders 24 in. and 44 in. diameter, stroke 48 in. driving two piston inlet air cylinders each 24¼ in. in diameter by 48 in. stroke, the capacity in free air of this machine being between 3,000 and 4,000 cubic ft. per minute. This is a duplicate of compressors at work at the Anaconda mines in Montana, where very economical results have been obtained.

The following circular letter to the shareholders of the Pennsylvania and Maryland Steel companies has been issued by the president, Mr. E. B. Morris: In accordance with the plan of reorganization of the Pennsylvania Steel Company and the Maryland Steel Company, the final payment for the new preferred stock being due and payable October 15th, the engraved certificates of both preferred and common stock will be delivered on and after October 22d upon surrender of the temporary receipts therefor, at the office of the company. The new consolidated bonds will also be delivered on and after the same date, upon surrender of the temporary receipts for the same. Your company has been reorganized under the act of Assembly of Pennsylvania applicable thereto, under the terms of which act the reorganization committee were charged with the duties of directors of the new company, to serve until the first Monday of May, 1896. It is proposed that a meeting of the stockholders shall then be held, at which a report of the company's business will be presented and an election held for directors for the ensuing year. It is also proposed that the date of the annual meeting shall then be changed to an early date in March, so that hereafter the fiscal year of the company shall run with the calendar years, and a report can be mailed to stockholders of the results of its operations prior to the annual meetings. The service of the chairman of the reorganization committee as president of your company, and of the other members of the committee as directors of your company, is temporary only. It may be stated, for the information of stockholders, that the business is at present in a profitable condition, and the outlook is in all respects satisfactory.

TRADE CATALOGUES.

"The Pilot File System" is a pamphlet issued by the Keuffel & Esser Company, in New York, showing the merits of the "Pilot" filing system as applied to letters, drawings and other documents. It is claimed that this is the best system yet devised for perserving, binding and indexing papers, and that it possesses many other advantages which are fully set forth in the pamphlet. The Keuffel & Esser Company provides not only the files themselves, but cases for preserving them, sorting portfolios, copying devices and other accessories. The system appears to be an excellent one and is well worth examination.

Catalogue No. 47 (third edition), issued by Fraser & Chalmers, of Chicago and London, describes the Brown patent horseshoe roasting furnace, as improved and arranged up to the present time. It has illustrations showing the construction of the furnace itself in its latest form, the arrangement of a mill with the horseshoe furnace delivering its product to a chloridizing chamber and conveying hearth at a lower level, and finally the arrangement of this furnace as modified and built for the Bimetallic Mining Company at Phillipsburg, Mont. The last named plate exhibits the adaptability of the system which is flexible in plan and not limited to the horseshoe form, although the latter was adopted as being convenient under ordinary circumstances. These cuts show the construction of the furnace and indicate its operation very fully. Letters are appended showing the results of the operation of the furnace at the works of the Consolidated Kansas City Smelting & Refining Company. Among the companies now using the furnace besides those mentioned above are the Collinsville Zinc Company, in Illinois; the Arkansas Valley Smelting Company, the West End Gold Mining Company, the Union Smelting Company and the Nellie Bly Mining Company, in Colorado; the Golden Reward Mining Company, in South Dakota; the Glendale Zinc Company, in Missouri; and the Elliot Metal Company, in Wales.

"Coke Manufacture with Regard to the Saving of By-Products" is a pamphlet just issued by the Bee-Hive Coke-Oven By-Products Company, of New York, a recent organization of which Warren Delano, Jr., is president, and Robert A. Cook engineer and superintendent. The company has been formed for introducing into this country the methods of saving the by-products in the manufacture of coke covered by the patents and processes developed by Newton Chambers & Company, of Sheffield, Eng. This differs from the Otto-Hofman, the Semet-Solvay and other processes in that it is carried on in the ordinary bee-hive coke-oven in the usual way, the only modifications of the oven being a pipe running around the dome through which the air for the combustion of the coal passes and a hole cut in the bottom through which the products of combustion are taken. The gases and by-products thus drawn out are taken to a simple surface condenser made of cast-iron pipe, from which the gases go to an ordinary scrubber and may then be used directly for firing boilers or other purposes, the heavier products being collected in a tank and there separated. The illustrations show the arrangement of the oven as built and used in England, and also show the machinery for extracting coke from the ovens. We are informed that the first complete plant on this system has been erected at Latrobe, Pa.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kin will notify the "Engineering and Mining Journal" o what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods, and shall be pleased to furnish them information concerning goods of any kind, and forward them catalogues and discounts of manufacturers in each line.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, nor have they any pecuniary interest in buying or selling goods of any kind.

GENERAL MINING NEWS.

Exports of mineral oils from the United States in September, as reported by the Bureau of Statistics, Treasury Department, amounted to 66 344,442 gals. For the nine months ending September 30th the exports were: Crude oil. 83,929,992; naphthas, 8,357,678; illuminating. 483,177,562; lubricating and paraffin, 32,995,830; residuum, 85,722; total, 608,546,784 gals. This is a decrease of 42,424,816 gals., or 6 5/8, as compared with the corresponding period in 1894.

ALABAMA.

A dispatch from Birmingham reports State Mine Inspector Hillhouse as saying that the output of coal in Alabama this year, from figures at hand and close estimates on the production for November and December, will be 6,000,000 tons. This will be 750,000 tons in excess of the production of 1893, which was the largest production in the history of the State to that time, and almost 2,000,000 more tons than were mined last year. All the old mines and many new ones have all they can do.

ARKANSAS.

Garland County.

Mikel Mine.—A lot of iron pyrites is being taken out of this mine near Hot Springs for shipment to Atlanta Ga. If the pyrites answer the purpose, for making sulphuric acid, a large contract is expected.

CALIFORNIA.

Amador County.

(From Our Special Correspondent.)

Bay State.—At this mine 4 miles north of Plymouth, there are 4 ore chutes on the 600-ft. level, with a total length of 270 ft. and an average width of 6 ft. Twenty men are employed and the mill is crushing about 20 tons per day.

Butte County.

A mining company has been organized, consisting of Colorado capitalists and town residents, and work commenced in the old City Gardens at Oroville. The intention is to sink for the rich gravel that is known to exist under this town. A large pump has been ordered to enable the company to handle water, which will be encountered at a depth of 20 ft.

Barton.—This mine, 25 miles northeast of Visalia, has been bonded by L. A. Johnson, D. G. Overall and W. H. Hall, for $2,500. A shaft is now being worked, night and day shifts. One hundred and fifty feet is now completed and a ledge has been struck. The rock is of a black color and lined with flour gold, valued at $16 per ounce.

Crystal Hill.—The management reports that they are in on the ledge 264 ft., and that the ledge was tapped at 235 ft. below the surface. The rock prospects well. A new 5-stamp mill is being erected, and it is expected to be in full operation by November 1st. The mill will be run by water power from the Mooretown ditch.

Rock River.—Twenty men are at work on buildings and cleaning out incline of this mine.

Standard.—C. M. Spangler, superintendent of this mine at Oregon City reports that the shaft is down 425 ft. and will be continued to a depth of 500 ft. A new hoisting engine and 100-H. P. boiler have just been put in. Thirty men are employed. It is expected as soon as mines in that section are more fully developed electric power will be considered. A good pressure can be obtained from Cherokee, a distance of only 4 miles.

Calaveras County.

(From an Occasional Correspondent.)

South Paloma Gold Mining Company, Limited.—This is the name of the company which is to be incorporated to work the Givin Extension. Work has been begun and contracts let to run 200 ft. to strike the vein; to upraise from the end of the tunnel to the surface, and to sink 125 ft. on the vein to prospect the ore chute. Mr. Mark B. Kerr is superintendent; his address is at Valley Springs.

El Dorado County.

The Debris Commissioners have granted permission to mine by the hydraulic process to John Pasco, of the Eureka mine, near Placerville, and to John F. Coe, of the Railroad placer mine, near Spanish Flat. Charles Jordan, of the Poorman's mine, near Placerville, was given permission to construct dams.

(From Our Special Correspondent.)

A Minnesota company has bought over three miles of gravel claims extending from the head of Missouri Canyon to Work's Ranch. The agents of the company have been doing development work for some time and will now commence operations on a large scale.

Mariposa County.

Santa Rosa.—Lane & Hobart, of the Utica mine, have purchased the Santa Rosa mine from Cox & Stockton of Madera. The price is said to be $50,000. A 10-stamp mill has just been erected at the mine.

Nevada County.

(From Our Special Correspondent.)

Mayflower.—At this mine on Canada Hill the new 20-stamp mill has started up. There is a large quantity of good ore on the dump and the mine has been opened up so that enough ore can be taken out to keep the mill running at full capacity.

Tuolumne County.

(From Our Special Correspondent.)

Star.—This mine is located three miles from Italian Bar Bridge on the South Fork of the Stainslaus River. A vein from 3 to 5 ft. thick has been opened up by tunnels and drifts and runs well in free gold. The sulphurets assay over $500 per ton. The 10-stamp mill which is being built will be on the ground in working order about December 1st.

COLORADO.

Clear Creek County.

(From Our Special Correspondent.)

Anglo-American.—After an idleness of some years a company has been organized to work this property located in the Cascade district. The water has been taken out and the workings are being cleaned. F. A. Moss, formerly of the Fraction mine, is interested in the company.

Crown Point & Virginia Mining Company.—The shaft is down another 100 ft. and additional levels are being run. The streak of pay is over 3 ft. wide, mostly concentrating, running from $12 to $15 per ton before reduction. For the past month the Williams, which is owned by this company and worked through the Crown Point shaft, has been averaging 25 tons of ore a day. Mr. Josephi, the manager of these mines, claims that the shipments will average 100 tons a day, within two weeks.

Edgar No. 1.—This property was sold during the first of the month, through J. H. Shepherd and L. L. Bailey, of Denver, to a party of New York business men. The payment was $25,000 cash. The mine is one of the old locations up Hukill Gulch, at Idaho Springs, but has not been worked until within the past 10 months. Within that time the output has netted the leasers $15,000. It has been held for one year on lease and bond.

Lily.—The owners of this property are sinking the shaft another 100 ft. On the new level recently begun the mineral streak is very large, ranging from 4 to 6 ft. It is streaked with smelting ore. The ore is sorted, the high grade going to the smelters and the balance to the mills for concentration. The entire width is pay.

Windsor Castle.—Denver business men are interested in this property and within the past week they have put in a steam hoisting plant. They claim to have 2 ft. of smelting ore.

Dolores County.

Rico-Aspen Consolidated Mining Company.—The annual meeting of this company was held in Denver last week. The following named gentlemen will compose the board of directors for the ensuing year: D. H. Moffat, Eben Smith, John E. Searles, H. P. Scott and A. B. Roeder.

Eagle County.

Belden.—This mine, at Gilman, has resumed its former activity and is sending out 60 tons of ore per day. A larger force of men will be put on in a few days to increase shipments.

El Paso County—Cripple Creek District.

(From Our Special Correspondent.)

In the early part of 1892 Gold Hill's south slope was the favorite part of the camp. During the latter part of 1892 and the commencement of 1893 Bull Hill was almost the sole attraction; in the latter part of 1893 and the beginning of 1894 the Independence and the Portland mines made Battle Mountain famous. At the commencement of 1895 the North slope and the apex of Gold Hill deservedly attracted mention, as 17 steam hoists were erected, and train loads of ore were, and still are, being mined daily. In the latter part of 1895 Raven Hill has come to the front, and bids fair to eclipse all other hills of this camp. The Raven mine was the first shipper in 1892, the Moose followed in 1893 and has paid dividends ever since; the Elkton in October, 1893, the Katherine in 1894. In the last half of 1895 the Doctor is certainly entitled to first place by shipping two of the richest cars of gold ore ever known, $150,000 for less than 20 tons, mined for $1,000 in labor costs. This rich chute has been developed for 190 ft. in length, and the finest specimens were found this week; cubes of gold, varying in length from 1 to 1½ in. are seen, and from ¼ to ⅝ in. wide. The 38 ft. drift is 5 ft. wide, and all goes to the Publo smelter; a recent assay gave $3 992 per ton. The 160 ft. level is 7 ft. wide, and all goes to the smelter without sorting. An ore house with large ore bins is being erected. Next in order comes the Moose, wish a shipment of 6 cars—120 tons—of ore, yielding 50 oz. gold, and 75 oz. silver per ton. This kind of ore is unlike any other found in the camp, and was in the shape of a lenticular deposit, dipping from north to south. The silver was very high, as the usual return of silver on ore from this mine is less than 5 oz. The rich shipments from the Doctor of over 200 oz. gold only gave 7 oz. silver. The North Star, owned by the Gold Standard Company, and worked on lease, came third in importance of strike. A recent shipment of 14½ tons yielded, so the lessee informed me, 76 oz., or $1,520 per ton, while the second grade assayed 13·82 oz. This ore was taken from the 150 ft. level. Excavation is now being made for the erection of steam hoist, etc. Next in order is the Jennie Sample, worked under lease by John E. Smith (who discovered the Moose mine), which this week, at a depth of 120 ft., made a rich strike on a drift 35 ft. from the shaft. A 6-in. seam on the hanging wall assays $600 per ton, and the balance of the vein about $40 for 3 ft. wide. Joe Dandy and Ailsa R. have made good strikes of late, which in an ordinary camp would excite speculation. The improved appearances of the Bogart and the Ida May are very encouraging. The old reliables include the Raven, which adds to its reserves daily, as 16 men are employed on development alone. The Elkton, employing 90 men, never had as much ground blocked out as to-day. The bottom drift north for over 300 ft. has never been without shipping ore; a recent essay for 6 in. wide gave $1,500 per ton, and an assay taken away from the vein gave $180. The Katherine is not behind her neighbors, having reserves blocked out for 1½ years' steady work. The shaft is being sunk by nine men, and has reached 60 ft. below the 315 ft. level. Ingham, Mattie D., Wellington and other claims on this hill have been consolidated to avoid litigation.

Lake County—Leadville.

(From Our Special Correspondent.)

Arena Mining Company.—Work is being carried on through the Iszard shaft and occasional 100-ton shipments are made of ore running $30 to $50 per ton.

Doris.—Harry Mamlock is using a diamond drill to explore the lower formations, and it is likely that a good ore body will be opened up.

Fairview.—This lease on Fairview Hill is being operated by Mr. Hugh Dyatt. The shaft is an old one, but was down only 144 ft. It is to be sunk to contact.

Grey Eagle Lease.—Among the good leases started up this month is that of Page & Schmaker on the Grey Eagle to mine manganiferous iron. About 100 tons a day is being shipped to the Pueblo steel works.

Kansas City.—The owners of this property in Little Union Gulch are putting in a good plant and machinery preparatory to starting vigorous work. This property is owned by Kansas City capitalists.

Lucky Weber.—A large volume of water necessitated the closing down of this new shaft this week. It is learned from good authority that this is but temporary and that in a few weeks a new plant of machinery will be in place and the shaft be sunk as originally intended.

Searle Placer.—In the race for ore on this ground work on the two opposing shafts is progressing splendidly. On the Villa being sunk by Carleton et al., the shaft has reached a depth of 265 ft. and is in wash. About 75 gallons per minute of water is also being handled. The Delante, being sunk by Mudd, Estey et al., is also going down at a rapid rate, and is now in dolomite sand at a depth supposed to be about 275 ft.

Smith-Moffatt Group.—The output reports completed to October 10th show the following output for the preceding month: Lower Henrietta, 2,327 tons carbonate; Maid of Erin, 695 tons of iron; Wolftone, 3,673 tons sulphide; Starr Lease, 1,120 tons carbonate; Bon Air, 170 tons carbonate; Gray Eagle and Pocahontas, 300 tons carbonate.

Weldon Mining Company.—This new company was incorporated this week. Capital stock, $500,000; shares, $1 each. The directors are Dennis Sheedy, W. K. Burchinell, Jas. Lightbourn, T. S. Schlessinger and G. C. Bartels.

Ouray County.

(From Our Special Correspondent.)

Abendigo.—J. J. Pierson & Bros. have secured control of this property, and will start up next week.

Bell Champion.—Blake & Company shipped three carloads of ore to Durango recently from this mine, at Saw Pit. Should the sample prove profitable shipments will be continued on a larger scale.

Caroline Mining Company.—The mill on this property is being doubled in capacity, and will be ready for operations by January 1st. A force of 20 carpenters is employed on the buildings, and the new machinery is being placed on the ground as rapidly as possible. A new electric motor was recently put in, and another is on the ground, which will furnish compressed air to the underground workings during the winter when water power is out of the question. This company now employs 300 men.

Saratoga.—This property has been abandoned by its owners, and the mill is now being torn down and removed to Nevada by the company, which has transferred its operations to that State. The Saratoga was until late years one of the biggest producers in the Ouray district, but the low price of silver compelled its owners to abandon it.

Sweepstakes.—Negotiations are pending toward a resumption of operations at the Sweepstakes, which has lain idle for over two years. A drainage tunnel is to be run in order to catch the ore chute opened up in the shaft. The tunnel will be 1⅛ miles long, and, it is estimated, will consume three years in its construction.

Windham Smelter.—This plant will resume operations next week under the management of J. J. Davis and John Higgins, sufficient ore contracts having been closed to supply the furnaces all winter.

San Miguel County.

San Miguel Consolidated Gold Mining Company.—The stockholders of this company held their annual meeting in Telluride on October 1st. The old board was re-elected, with the exception of Ralph King, who has retired, and Gen. Ames, of Mas

sachusetts, takes his place. The officers of the company are as follows: James Campbell, St. Louis, president; Chas. E. King, Jr., Cleveland, vice-president; H. R. Newcomb, Cleveland, treasurer; trustees, James Campbell, St. Louis; C. G. King, Cleveland; B. J. Wertheimer, Chicago; Gen. Ames, Boston; H. R. Newcomb, Cleveland; A. R. Brewer, Cleveland; Messrs. Kent and Stafford, Cleveland, and S. A. Bailey, Telluride. The visiting stockholders, accompanied by General Manager L. L. Nunn, examined the various interests of the company in the county in the last few days. At the meeting Mr. Nunn was authorized to extend the business of the company into Utah, as well as in Colorado.

IDAHO.

Boise County.

Illinois.—At this mine, one of the first located in Idaho, work has been in progress at intervals for many years. The present owners, O. A. Duquette and Julius Linstedt, have worked the mine about two years. The mine is in the Gambrinus district, six miles from Idaho City. There is a tunnel which has been cut at different times and is now in 415 ft., running most of the way on the vein, which varies from 6 in. to 1 ft. in width. From this long tunnel two cross-cuts have been run north, one 35 and the other 40 ft., without finding any sign of the foot wall. All the way is ledge matter, which carries gold, and would, taken all together, pay well in a big mill, but which cannot be profitably mined and hauled to a custom mill for reduction. About 330 ft. west of the mouth of the tunnel a raise has been put up to the surface through which an ore body near the surface will be worked.

Lucky Boy.—This mine, in the Gambrinus district, near Idaho City, is owned by George Chapman and William Libby, who have succeeded in making it pay its way. They are now running a tunnel, which is in 185 ft. to open it at greater depth. The rock taken out will be reduced in the Blaine mill.

Populist.—This mine, near Boise City, is owned by Owen Gallagher and Al Fielden, who commenced work on it a short time ago. They have run in a cut and got a depth of 20 ft. and are taking out rock that will be taken to the Blaine mill for reduction. They will prepare to keep work going on in it all winter.

Washington.—It is reported that the owner of this mine, Charles Balbach, will pump out the water shortly and resume work. The mine, which is near Idaho City, carries a good deal of silver. There is a 10-stamp mill, but no facilities for saving the silver.

Logan County.

Camas No. 2.—In this mine a drift on the 400 ft. level recently opened up a body of ore carrying considerable gold. The vein is about 4-ft. wide and has been drifted on for about 40 ft. The mill is receiving enough ore to keep the 20 stamps busy. The company is making arrangements to build a dam in the spring, in order to store water for use during the summer.

Shoshone County.

Bunker Hill & Sullivan Mining Company.—This company, says the "Cœur d'Alene Miner," is steadily increasing its output and exceeding its development. There are now 400 men employed by the company in all departments. The tramway is making half a day over-time every other day and occasionally even better than this. On account of extending development work they are gradually increasing the working force. Some new work about to be commenced will require an addition of about 50 miners shortly. An addition to the boarding house and bunk house 24 ft. square will be built at once. The lower story of this will be used as a dry room for the men and the upper story as a reading room, which will be provided with many of the leading periodicals and newspapers, for which the company has subscribed for the use of its employees. The company is getting ready to start its air compressor to furnish power for the drills on the Reed tunnel level. They have just finished laying a 5-in. air-pipe line for this purpose. Four machines will be started up shortly. They will also shortly commence the erection of an addition to the machine shop, which is at present inadequate for the business required of it. An electric fan has been put in for ventilating the lower levels of the mine. This is a 5-H. P. electric motor directly connect with a Sturtevant blower. An addition to the Reed ore bin is also contemplated.

Hunter Mine.—This company is now working two shifts and has 95 men on the pay-roll. A short stoppage was caused last week by the breaking of the water-wheel shaft.

Morning Mining Company.—This company's mill at Mullan has commenced running on the night shift, and is now running continuously. This refers only to the eastern half of the mill. The western half of the mill will be repaired next, but this will take some time, as it is the intention to make radical changes. The operation of the mill now requires five men on each shift.

Poorman & Tiger Consolidated Mining Company.—This company is making extensive improvements in its water-power on Canyon Creek.

You Like Mining Company.—This company has been organized with $1,000,000 capital stock. The incorporators are J. S. Baker and H. W. Baker, of Tacoma, Wash., and J. H. Boyd and W. J. C. Wakefield and H. G. Macdonald, of Spokane, Wash. The agent in Idaho is H. S. Harris, of Mullan, where the company's property is located

ILLINOIS.

Jackson County.

Big Muddy Coal and Iron Company.—This company has raised the wages of its miners 10%. These miners are at Murphysboro, and employ now a large number of men and will give employment to more.

IOWA.

Story County.

Summit.—The shafthouse at the Summit coal mine, three miles south of Story City, burned on October 12th. Four miners were burned to death.

KENTUCKY.

Union County.

Cumberland Coal Company.—This company, at Sturgis, has lately undertaken to build a railroad from its mines to the Ohio River, a distance of about four miles. Its track must cross the Ohio Valley Railroad, and Mr. Reese, the president of the coal company, applied to Colonel McLeod, the Receiver of the Ohio Valley, for permission to put in a crossing. Mr. McLeod instructed Mr. Reese to apply to Judge Barr, United States District Judge, says the Henderson "Gleaner," which Court has charge of the road. Mr. Reese gathered a force, tore up the Ohio Valley track and put in his crossing. The superintendent of the Ohio Valley ordered the roadmaster to take the crossing out at once. The roadmaster went there with his force, but Mr. Reese and a sheriff read the riot act to him and he departed.

MICHIGAN.

Copper.

Essex Mine.—Examinations have recently been made of this old mine, formerly known as the Norwich mine, with a view to reopening it, as it is believed that it can be worked with profit. The Essex —or Norwich—is one of the old mines of the region. It was first opened in 1850, and it was for a time a producer, but the high cost of transportation and the panic of 1857 forced the company to close down in 1858. Later it was consolidated with the Windsor and work resumed, but it was again shut down on account of lack of working capital. For a time tributors took out some copper, but the mine was finally closed. The machinery includes a hoisting engine, a pumping engine, a 16-head Cornish stamp mill and a saw mill; it is now all in a state of decay, but could probably be repaired and used for exploration purposes. The mine was opened by an adit level which was driven east to the Norwich vein. A shaft was then sunk to the fourth level, and three levels were driven west and considerable stoping done. A shaft was also started at the outcrop of the vein on the bluff. When the mine was worked, some 500 tons of copper was taken out, including some large masses. The present owners bought the property when the old company expired by limitation and organized the Essex Copper Company. The property includes about 600 acres of land on the mineral belt, and is believed to be traversed by the Norwich vein (on which the old opening was made), the Pressure vein and the Indian Digging vein; it is possibly intersected also by the Minnesota and Evergreen veins. It is 12 miles from Ontonagon. The west branch of the Ontonagon River passes through it, furnishing a supply of water, and the Duluth, South Shore & Atlantic Railroad is about five miles distant at the nearest point. Besides the mineral land, the company owns 160 acres of timber land. The mine could be unwatered and explored at a reasonable cost, now that railroads have made it accessible.

Lafayette Mining Company.—The property of this company has recently been examined with a view to opening up the mine. It includes 160 acres in the Porcupine Mountain district, located on Carp River 1½ miles from the shore of Lake Superior, near the old Carp Lake mine. The Lafayette mine has an interesting history. It was first located in 1845, on the site of some ancient Indian workings, under charge of Mr. Cyrus Mendenhall. The Ohio & Isle Royale Mining Company leased the property, but financial difficulties stopped the work, and the tract finally passed into the possession of the Lafayette Mining Company about 1863. Work was carried on by continuing the adit level and sinking the shaft, both started by Mr. Mendenhall in 1845. The mineral taken out was chiefly stamp rock, and it was present in large quantities. The work was finally discontinued because of the high cost of transportation. Later examinations make it evident that the mining was not judiciously conducted, and was probably not directed by a practical head. The Carp Lake and Lafayette veins are both believed to be on the property, and arrangements are being made to resume work, with, it is believed, prospects of success.

Quincy Mining Company.—Late advices say that a very large mass of copper has been struck in this company's mine, and the men are now at work cutting it out. The company is putting up a large shaft-house and rock-house at its No. 4 shaft.

Iron—Marquette Range.

Winthrop.—The largest blast ever made in the Lake Superior region was set off in the open pit workings at this mine last week. Preparations had been going on for some time, the ever-burden having been removed and the holes drilled in the ore-body. There were 26 kegs of high-grade powder used, and it is estimated that about 15,000 tons of iron ore were broken up by the explosion.

MINNESOTA.

Iron—Mesabi Range.

(From Our Special Correspondent.)

Biwabik.—This mine has four steam shovels in dirt stripping, and there is a good deal of ore uncovered that would be shipped at once if vessels could be had.

Canton.—This company has put in air compressors and will do all drilling underground by machinery. It has also put mules at traming. Shaft C is in ore and is being sunk steadily.

Fayal.—This mine is putting in an air compressor, and will work 10 steam drills underground this winter. It will stockpile at least 100,000 tons for next season.

Longyear Bennett.—The properties of this concern, on the West Mesabi, are to be put in readiness for mining operations in the coming season. There are two mines under lease from Wright & Davis and from Pillsbury of Minneapolis, and a third and fourth that will probably develop soon into good properties.

Lowmore.—This property, at Mountain Iron, from which a few cargoes were taken two years ago by G. A. St. Clair, has been leased and will be got in shape for operation at once. It is rumored that some of the Merritt interests, which formerly owned the mine, have leased it.

Mountain Iron.—This mine now has a machinery force of four steam shovels, four standard locomotives, and two dinkey engines at work, and the mine looks as it did last spring before the partial shut down.

Williams.—This new mine is shipping about 200 tons a day.

Iron—Vermilion Range.

(From Our Special Correspondent.)

Since August 1st there have been issued at the State Land Office of Minnesota about 80 mineral leases under the State law. Nearly all of these have been on the Vermilion range, which has been almost entirely avoided by prospectors in the past four or five years. These leases extend from the region about Gunflint Lake, on the international boundary line, to Ely.

Minnesota Iron Company.—This company has advanced wages at its Soudan mines to a basis of $1.70 per day, and is in the field for more men, whom it finds hard to get quickly. It is stated that the company has sold for delivery this fall and early in the spring its remaining stockpile of 200,000 tons of crushed ore at the Minnesota.

Zenith Ore Company.—This company has been formed under Wisconsin laws, to operate the mine of that name at Ely. The mine has been leased on a 25c. basis and with a minimum output of 30,000 tons a year. It is to be developed the coming winter. The Zenith has shipped some 30,000 tons.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

JOPLIN, Oct. 14th, 1895.

The output still continues light with many workings still under water. Although the top price for zinc ore remained at $26.50 per ton, the general average was not quite so high as for several preceding weeks. Lead is stronger than last week. The output is as follows: Joplin, zinc, 1,082,310 lbs.; lead, 272,590 lbs.; value, $17,713; Webb City, zinc, 477,790 lbs.; lead, 24,000 lbs., value, $6,166. Carterville, zinc, 955,980 lbs.; lead, 181,145 lbs.; value, $14,732. Oronogo, lead, 2,820 lbs.; value, $37. Spring City, zinc, 21,670 lbs.; lead, 22,220 lbs.; value, $656. Alba, zinc, 84,000 lbs.; value, $1,008. Stolls City, zinc, 170,000 lbs.; value, $18,000. Springfield, zinc, 88,000 lbs.; value, $920. Galena, Kan., zinc, 2,390,000 lbs.; lead, 400,000 lbs.; value, $31,490. Total for the district. Zinc, 5,269,750 lbs.; lead, 902,775 lbs; value, $74,522.

Favorable prospects have been struck recently on the Armit tract; by Duryee & Howard on the Empire tract in the western part of Joplin, and on North Heights, adjoining the city.

MONTANA.

Cascade County.

Castner Coal and Coke Company.—This company, says the Anaconda "Standard," is making many improvements in its mines at Belt. The civil engineers and architects of this company, Messrs. White & Goldburg, have been busy the past few weeks preparing plans and specifications for a 600-ton washer, besides other buildings of less importance. The old washer will continue to wash the coal used for coke, while the new one will be used exclusively for washing all slack now shipped to Anaconda for steaming purposes. At present about 20 carloads of slack are shipped every day, just as it comes from the mine. With the assistance of the washer all dirt will be removed and the coal shipped clean. The new building will cost about $20,000, and will be built on plans similar to the old one, close to which it will be located. The old washer has a capacity of 300 tons per day. There are now 75 coke ovens charged and turning out from 8 to 12 carloads per day. The new system of mining and keeping the coking coal separate from the other seems to have solved the problem which proved so vexatious during the early days of the works. The grading and tracklaying

for the new course from No. 2 hopper to the washer is completed to within about 400 ft. of the latter. Over this 400 ft. it will be necessary to build a trestle, which will require about 60,000 ft. of timber. Fourteen cars, something similar to those in use at the ovens, will be used to convey the slack from the mine hoppers to the washer. They will be drawn by horses as far as the trestle, and from there will be drawn by the cable. The company is now shipping from 80 to 90 carloads, aggregating from 2,000 to 2,500 tons per day. No. 2 mine alone dumps on an average of 625 mine cars a day. The amount will be increased as soon as additional facilities for handling cars can be completed. Near No. 2 mine is a new stable, 50×100, which is being erected for the use of the horses used in the mines. Fires have been started in the new boilers and as soon as the power house is completed and the machinery is in place the tail-rope system will be introduced in No. 1. The company recently purchased a piece of land near the coke ovens, and is now sinking a well on it. It is the intention later on to sink this well to a considerable depth, so that a sufficient body of water may be secured to put in a system of waterworks. The water will be pumped up to a reservoir on the hill and pipes laid around the works and through all the principal streets of the town. The company increased the wages of its miners 10% on October 1st.

Kennedy Coal Mine.—This mine at Belt is now being worked under lease by Ed. Barry, Charles Ashworth and others, and is turning out an excellent quality of coal. This mine is owned by P. J. Shields, E. R. Clingan, trustee, S. N. Dickey and Will Kennedy, and is now being developed to supply local trade and other markets for domestic purposes. The lessees are now in 125 ft. and have a 7-ft. vein of fine coal. A chute and screens have been put in and within the next two weeks they expect to begin shipping from Armington, which is the nearest railroad point. For the present all efforts will be to produce coal for domestic purposes.

Flathead County.

Chicago & Montana Mining Company.—At this company's Snow Shoe mine in the Libby district a recent strike disclosed a body of ore 5 ft. in thickness, a large portion of which carries sufficient value to be shipped without concentrating. Most of the ore in this mine heretofore has been of low grade, requiring concentration before shipping. Machinery for a new concentrator is now on the ground, and it is expected that the mill will be in operation by December next.

Jefferson County.

(From an Occasional Correspondent.)

Lump Gulch continues a steady produce of silver ore, with some increase. The principal mines are either sinking again or preparing to do so.

Prospecting on the upper part of Lump Gulch Creek and its branches continues with unabated interest and some good gold prospects are reported.

The dump at the old abandoned smelter at Wickes is being worked over by contract on a basis of 20% royalty to the owners. The results are satisfactory to the contractor.

The Diamond Hill property is for sale and several would-be purchasers have examined it.

Silver Bow County.

Parrot Silver and Copper Company.—This company has nearly completed their works about three miles from Whitehall, on the Northern Pacific railway between Logan and Butte. A ditch 18 miles in length has been constructed to furnish power, the Jefferson river being the supply. A fall of 92 ft. is obtained, and 1,000 H. P. developed. When the works are completed the company will be prepared to increase the output of copper to 3,000,000 lbs. or more each month. Seven thousand acres of land are in the tract secured by the company, 3,000 of which will be used for the smelter site. A railroad will soon be completed to the smelter site, which will enable the company to ship the product of their mines direct to the smelter at Bridgeport, Conn.

NEW MEXICO.

Grant County.

The Barringer-Penrose-Brockman syndicate has closed its mill at the mines at White Signal. Whether the shut down is temporary or permanent is not known yet.

Texas.—This mine, at Central, is being actively worked by its new owners, Cartwright & Markley. They have a force of 20 men employed on development work and the results are encouraging, says the Silver City "Sentinel." They are running a tunnel from the lower level of the Texas to connect with the Grand Central. A 13-ton lot of low-grade ore was sent over to the Ivanhoe smelter recently and the returns were satisfactory. Another large lot of ore of the same class will be treated by the Ivanhoe smelter soon.

Taos County—La Belle District.

(From Our Special Correspondent.)

In justice to this district, which started out some months ago with a great boom, I desire to give your readers the following information regarding the prospects. In May last the town boom was at its highest; lots commanded good prices, from $75 to $200. Buildings were being put up daily, everything pointed to prosperity, and we had every reason to look forward to a genuine mining boom. Shortly after, however, the boom gave out, people began to leave camp, things became quiet and dull, till at the present time the town is practically dead, so far as business is concerned. The reason for all this may be easily found, by going back to the time when the grant was open to prospectors. It was a time of general depression and strike. Naturally, every railroad man, ranchman, cowboy, coal miner, etc., who was out of employment and could "rustle a grub stake," flocked to La Belle. These men, who knew nothing about prospecting, let alone mining, most of whom had never been in a mining camp before, commenced staking the country in all directions; in fact it seemed to be a question of who could set the greatest number of stakes per diem. Some would do their assessment work and hold the claims, putting fancy prices such as $5,000, $8,000, etc., on them. A few months after, when the camp became known, genuine prospectors and miners would visit it from time to time, find the country staked for miles around and return in disgust, naturally not with the most friendly feelings toward the camp. This, I think, will explain the cause of the present dullness in La Belle. There is no doubt as to the gold being there. The few thorough men, who have obtained a foothold and done honest work, have demonstrated that without a doubt. But they have also shown that it will take money, and hard patient work to produce any pay mines in the district. The formation is so broken up and folded and contorted that it takes depth to make any showing at all. Hitherto we have had, with a few exceptions, nothing but a class of poor and inexperienced men at work. They are, however, gradually and slowly giving places to a better and harder working class of miners, and it is on their work that our hopes are based. Recently prospecting and development work has been energetically carried on with very encouraging results. All prospects show material improvement, and demonstrate plainly that the mineral exists in plenty, and, while low grade on the surface, is gradually improving with depth. Among those claims which have shown steady improvement may be cited:

Cinamon.—This claim has a 60 ft. tunnel, showing up a strong vein from 3½ to 3 ft. wide. Recent assays on this property gave high returns in both gold and silver. The owners are getting ready to do extensive development work.

Edison.—Two shifts have steadily been working this property during the last four months. A crosscut tunnel is now in 250 ft. and is expected to cut the vein at any time at a depth of from 70 to 80 ft. A shaft 52 ft. deep has shown the vein to be 4 ft. wide between walls. The ore assays well and is chiefly free-milling. A streak of about 18 in. assays very high.

Louise.—The tunnel is in 62 ft., and at the breast is about 40 ft. underground. The vein is 6 ft. wide, and the ore is steadily improving in character. Assays have improved from $2 at grass roots to $17 at breast.

Midnight.—The shaft is 65 ft. deep. At 45 ft. a 70-ft. level has been run. The lower level is now 100 ft. long. The owners will shortly proceed to block out ore. The vein shows up well and is 6½ ft. wide.

NEVADA.

Storey County—Comstock Lode.

Comstock Tunnel Company.—The stockholders of this company held their annual meeting in New York City on October 14th, and elected the following trustees for the ensuing year: Franklin Leonard, Ambrose Leonard, Gordon Macdonald, M. L. Muhleman, R. Hobart Smith, H. H. Truman and P. H. S. Vandervoort. The treasurer's report shows cash on hand to be $14,588, as against $15,440 a year ago. Receipts for the year from royalties and transportation were about $33,000. Back coupons to the amount of $840 were paid off. The profits of the last six months were $2,100. All attachments against royalties have been vacated. The obligations of the company have been reduced $6,300 since the new management came into power about five months ago.

NEW JERSEY.

Morris County.

The New Jersey Iron Mining Company.—This company resumed work driving a tunnel into the Dutch Hill mine near Dover. The company is also sinking a trial shaft south of No. 13 on the Irondale range. The concentrator is being worked night and day, and buying lean ore from Hurdtown and Hibernia.

NEW YORK.

Orange County.

Empire State Granite Company.—This company has been organized to buy and work quarries near Goshen. W. Hinchliffe, of Paterson, N. J., is the chief owner.

Ulster County.

Examinations are being made of iron ores lately discovered on the Mackey property near Marlborough. The discovery is located about 9 miles from the Hudson River.

ORRGON.

Baker County

Baisley-Elkhorn.—This mine is soon to be in operation, under the management of Mr. R. S. Cates, in the interest of the owner, Mr. R. O. Deming, of Osage, Kansas, says the Baker City "Democrat." Mr. Cates is moving conservatively in the matter awaiting the action of the stockholders of the old Baisley-Elkhorn Mining Company under the statute providing for redemption of property under execution and sale. The time will elapse shortly and should there be a failure to redeem, title will be vested in Mr. Deming, who will operate the property on his own account. In view of a probable failure to redeem, Mr. Cates has let contracts for a supply of wood for the winter for steam power at the mill and is now putting on a force of miners to get the mine in shape for ore production.

Lane County.

Champion.—At this mine, in the Bohemia district, a 10-stamp mill is being put up.

Music.—At this mine the five-stamp mill is running steadily on free-milling gold ore.

Star.—Arrangements are being made to put up a 10-stamp mill at this mine in the Bohemia district.

Linn County.

Lawler Gold Mines, Limited.—Mr. William B. Lawler, managing director of this English company, stated recently to the Portland "Oregonian" that of late the work of development on the property has progressed uninterruptedly, and with good results. The sinking of a winze in the Red Bull mine has exposed an ore vein 5 ft. in width, without reaching hanging or foot walls, the assay value of which is $47 per ton in gold, and also carrying some silver. Some delay has been experienced in the shipment of the 40-stamp mill from Denver, but it is expected to reach the railroad terminus within a few days, and from there hauled to Quartzville by wagon. The mill building is under construction, and will be ready for the machinery on its arrival. The extensive work being done by this company has given an impetus to mining in Linn County, and many prospectors are out in the hills of the Santiam.

PENNSYLVANIA.

Bituminous Coal.

The joint convention of Pittsburg coal operators and miners adjurned on October 12th after fixing the wages of the day hands, settling the dead work scale on the basis of 64c. a ton for mining. A committee was also appointed, consisting of two pick operators, two machine operators and two pick and two machine miners, to formulate a scale for both branches of mining so as to preserve the proper differential between them. The "dead work" and day scale, reported by the joint wage committee and adopted by the convention, is as follows: Clay veins, 6 in. and less than 12 in. shall be $2 per foot for cutting; everything over 12 in. shall be paid at the rate of $2 per foot. Where clay veins run in angle across the room or entry, 50c. per yard shall be paid while it continues. Anything 6 in. or less shall be considered a spar, for which $1 shall be paid, and 25c. additional shall be added where the spar runs in angle; $2.50 shall be paid for room turning, the work not to exceed 7 yds., and that entry price be paid for all over 7 yds. Entry work to be paid $1 per yard for two men; $1.25 for two additional men, and $1.50 per yard when entry is worked with three shifts. For 12-ft. places the former prices shall remain in force, and breakthroughs to be paid 50c. per yard. Questions of ripping, digging drain and thick slate to be left to miners and mine boss. Pick sharpening to be 1¼c. Drivers' wages to be as follows: Minimum price, $2; maximum price, $2.25, excepting in such cases where, owing to exceptional difficulties, a higher price is now paid.

The resolution establishing a price for mining where payment was made in store goods after January 1st, 1896, 20c. a ton higher than for cash payment, was passed. The Youghiogheny River Coal company has agreed to pay 64c. a ton. The company was entitled to the 59c. rate, the price paid by the New York & Cleveland Gas Coal Company, but waived the right and will pay 64 cents until the rate is changed by the district.

The delegates representing the coal miners of Central and Northern Pennsylvania, in convention at Clearfield on October 16th, voted to strike October 19th for the 5c. per ton increase in wages asked for at the Phillipsburg convention on October 2d.

Oil.

Forest Oil Company.—This, a producing branch of the Standard, has bought in a big "gasser" in its territory in the Masontown field. The strike was made on the Gilmore farm at a depth of 2,000 ft.

SOUTH DAKOTA.

Lawrence County.

Golden Reward.—A press dispatch from Deadwood says that the Golden Reward mines and mills have been bought by New York capitalists. The new company will take charge in a month, and it is understood will develop several mines in that section.

UTAH.

Summit County.

Silver King Mining Company.—This company has just placed an order for a complete electric light plant to be put in at the hoisting works and it is anticipated that within a very short time it will be in full operation. The company paid the monthly dividend recently of $37,500, or 25c. per share, on October 7th.

Tooele County.

Hard Times.—According to the Salt Lake "Tribune," Capt. J. R. De Lamar has purchased the Hard Times claims Nos. 1 and 2 from Patterson, Green & Hall. The claims lie just east of the

Golden Gate and adjoining that property and the purchase price is reported at $5,000 cash. The ore in these claims is supposed to lie very deep below the surface, but it is believed that the property can be worked from the shaft now being sunk on the Golden Gate. The ground is considered good, but its principal value lies in the fact that it adds more territory to the Golden Gate property.

WASHINGTON.

Pierce County.

Tacoma Smelting and Refining Company.—This company's pay-roll for September amounted to $5,037, there being 58 men employed. In addition the sum of $736 was paid for wood choppers and teams, bringing the total up to $5,773. The product for the month was 2,800 bars bullion, weighing 287,237 lbs. The contents of this bullion were: gold, 1,121·6 oz., $23,184; silver, 24,018 oz. (at 67c.), $16,092; lead, 285,573 lbs. (at 3·2c.), $9,136; total value of product, $48,412 for the month.

WEST VIRGINIA.

United States Oil Company.—This company has been organized by C. D. Greenlee and others, with a capital stock of $250,000. The officers of the new company are Edward R. Andrews, of Boston, president; C. D. Greenlee, vice-president and general manager, and E. A. Clark, Boston, secretary and treasurer. The main office of the company will be located in Boston, with a branch in Pittsburg. The company will operate in Marion, Doddridge and Wetzel counties, having absorbed the interests of B. Forst and others, which include leases on 5,000 acres of territory and about 250 barrels a day production.

Cabell County.

Leases of several large tracts of oil lands near Huntington have been secured by a syndicate. The territory is to be thoroughly explored and a number of test wells put down.

Tyler County.

Mountain State Gas Company.—This company has purchased Johnson & Graham's gas well on the Riggle farm, and leases on 1,000 acres of territory, southwest of Middlebourne, for $6,000.

Philadelphia Company.—This company has purchased from the Victor Oil and Gas Company leases on 6,000 acres of territory in this county, on which are three completed gas wells with an estimated daily capacity of 50,000,000 cu. ft. The price is understood to have been $60,000. The Philadelphia Company will push a 16-in. main into the territory this winter, and large pumping stations will be erected to supply Pittsburg with a greater pressure. The famous "Big Moses" well on the Spencer farm is included in the purchase. No accurate gauge was ever made of it, but it has broken loose many times, and the Victor Company has expended over $10,000 in trying to subdue it.

WYOMING.

Carbon County.

(From Our Special Correspondent.)

Cooper Hill Mining District.—About two years ago some prospectors found some rich gold ore in the surface, 40 miles northwest of Laramie. The following spring some important discoveries were made and considerable prospecting followed. This season has proved that some of the prospects are on the point of becoming mines. These properties are the Richmond, Little Ella, Smuggler and Albion. The Richmond is a vein of decomposed quartz and iron, varying in width from 18 in. to 4 ft. Mill runs from the ore taken out nearly 100 ft. from the surface average nearly $20 per ton in gold. The property is owned by Judge W. H. Bramel and associates, but has not been operated recently on account of an accident in the shaft, which killed one of Judge Bramel's sons. The Little Ella, which is owned by Messrs. Fox and McKee, is three miles north of the Richmond, and has a shaft about 70 ft. deep. The ore body is large, in some places measuring 12 ft. The ore is a white quartz carrying a sulphide of iron. Recent tests from the pay streak ran from $40 to $50 in gold. The Smuggler and Albion claims are on the same vein. The former is owned by Messrs. Hickey, Buck, Naismith & Frick, and the latter by Messrs. Morgan, Whittingham & Smith. This vein of ore is a peculiar one, being almost flat, and rich in gold, silver and lead. The pay streak has not, so far as the development has gone, being very thick, but the ore has often assayed 350 oz. of silver, 9 oz. of gold and 40% lead. The last mill run from the Albion gave $101 and the last from the Smuggler $69.

Uinta County.

(From Our Special Correspondent.)

Cokeville Camp.—Only a few weeks ago some prospectors found a very good-looking vein of ore. Mr. Goodall, a prominent ranchman of the county, assisted the prospectors in opening the vein, and the first car of ore netted them $56.25 per ton in copper and silver. This sudden opening of a mine in a country hitherto not known to be mineral-bearing has caused much excitement, and prospectors are going in from all directions.

Rocky Mountain Iron and Coal Company.—This company's mines at Red Canyon are turning out a fair amount of coal for this time of year. No. 5, which exploded on March 20th last, is being put in shape for operating again, but it will be two or three months before it is ready. A new fan-house and its machinery, fully repaired, are about ready for use, and repairs to the slopes have been made. The company is operating the No. 6 mine, with an average output of about 350 tons per day, which is taken by the Southern Pacific Railroad Company. The Union Pacific No. 7 mine, adjoining, is also turning out about 350 tons per day.

FOREIGN MINING NEWS.

BRITISH COLUMBIA.

Le Roi Mining Company.—At a meeting of the directors of this company on September 17th, in Spokane, a dividend was declared of $25,000, or 5c. per share. Judge George Turner, who lately directed the active management of the company's property, resigned from the presidency to take the position of general manager, and his brother, Col. W. W. D. Turner, was elected president. Colonel Turner is the largest individual stockholder in the company. The dividend will be paid through the Traders' National Bank. The company hope to declare a dividend monthly from now on. They have 40 000 tons of ore in sight. Nearly four-fifths of the 500 000 shares of the company are held in Spokane, about 100,000 shares being owned in Danville, Ill. The principal owners are: George Turner, Col. W. W. D. Turner, Col. I. N. Peyton, W. J. Harris, Col. W. M. Ridpath, D. W. Henley, L. F. Williams and Major Armstrong. Other stockholders here are: Judge Binkley, Judge Blake, Ed. Sanders and Frank Graves. The Le Roi mine was one of the first locations in the Trail Creek Camp. J. Morris and J. Bourgeoise discovered the iron outcroppings of the group that have since become famous, and took samples of the ore to Nelson.

Since the company recently put in its new plant it has been shipping 3,000 tons per month. It pays for freight charges and treatment $14.50 per ton, but has a contract with Messrs. Heinze, Breen and others, who are building the 100-ton matteing plant, at Trail Landing, under which they are to take the ore at the bins after October 1st and treat it for $11 per ton. In view of the near approach of this more advantageous arrangement, the company will not make such extensive shipments to the other smelters for the next two weeks. Most of the ore is now going to the Everett smelter. Two hundred tons have just been shipped to Deadwood, to be used in an experiment with the ores there, and some has also been shipped to Tacoma. The ore is in sharp demand by the smelters because of its heavy percentage of iron. The new machinery works well, and enables the company to double its yield with slightly increased expense. The new 100-ton boiler consumes less than two-thirds as much wood as was consumed by the old 80-ton boiler. Wood sells for $2 a cord and pine and cedar are chiefly used.

The shaft is now down 375 ft., and will be continued on down to the 500-ft. level.

The company has just bought a diamond drill to be used in prospecting underground. It cost $2,000, and will be run by electricity. It will drill 36 ft. in 24 hours, and will save a great deal of dead development work.

The hotel and boarding house are lighted by electricity, the company having its own dynamos. The purpose is to light the mine also with electricity, and the company will still have enough power for the diamond drill.

An option and bond have been made by a representative of a New York-Chicago syndicate on some eight mining claims on Texada Island. The price is said to be between $60,000 and $80,000. A stamp mill will be put on the property at an early date. The ores are similar to those of the Trail Creek district, and the claims are at different distances from half a mile to 2½ miles from shipping point or deep water in the Gulf of Georgia. The ores carry gold, silver and copper, with heavy iron caps. Some very good assays have been made from the ores, and they have been well prospected. So far as developed the veins vary from 18 in. to 30 ft. in width, and run generally in a northwesterly direction. The government is now building a wagon road from the mines to the shipping point.

Trail Creek Smelter.—Work on the Trail Creek smelter is going on, though slowly. The equipment is to be very complete and of the most modern design.

War Eagle.—This property is a constant shipper. The output lately has been from 50 to 70 tons per day. The grade is now said to be the highest ever shipped from the camp. The Le Roi is producing about 70 tons of ore per day, the output being from 70 to 75 tons. The shaft of the Le Roi is now down 372 ft. from the surface. The War Eagle and the Le Roi are the two great mines which have established the reputation of the camp.

SOUTH AFRICA.

Transvaal.

Witwatersrand Gold Production.—The monthly statement of the Witwatersrand Chamber of Mines for August shows that during that month the amount of ore passed through all the mills in the district was 301,551 tons. The quantity of tailings worked was 260,996 tons. The total amount of concentrates—chiefly pyritic—worked by chlorination and other processes is not given, as all the companies do not report. The gold obtained was as follows: From mill work, 133 228 oz.; from concentrates, 8,549 oz.; from tailings, 59,874 oz.; from other sources, 1,922 oz.: total, 203,573 oz., valued at £701,963. The report includes the statement of 46 mining companies and of the custom mills of the Rand Central Ore Reduction Company, the Robinson Company, and the Transvaal Chemical Company. The total number of stamps at work during the month was 2,535. The average yield of gold per ton from mill work was 0·44 oz., and from treatment of tailings by cyanide, 0·23 oz. The largest yield reported by any one company was 14,057 oz. from the Robinson, the New Primrose coming second with 12 206 oz. Three other companies report over 10,000 oz. each for the month—the Crown Reef, 11,531 oz; the Langlaate Estate, 11.472 oz., and the City & Suburban, 10,216 oz. The total yield was the largest yet reported from the Witwatersrand in a singe month.

LATE NEWS.

Fire broke out on October 17th in the main hoisting slope of the Oregon Improvement Company's mine at Franklin, Wash. It is feared that four men were suffocated.

Mr. Edward Halse, mining engineer, of Mexico, has been appointed a representative of the firm of Messrs. James Brothers, mining engineers of London, England, and has left Mexico for the Coolgardie gold fields in Western Australia on their behalf. Mr. Halse expects to sail from San Francisco for Australia early in November.

The Elkhorn Mining Company, limited, of Jefferson County, Montana, makes the following return for the month of September: Mill worked 29 days and crushed 1,128 tons; bullion produced in the mill, $25,060; 21 tons of smelting ore sold, $1,164; total produce, $26,224. The total expenses were $19,462, leaving the estimated profit for the month $6,762.

At a meeting of the directors of the Playa de Oro mining company held in New York, October 15th, Mr. C. G. Francklyn tendered his resignation as president, and Mr. William H. Young was elected in his place. The following new directors were also elected to fill vacancies caused by resignations from the board: Stuart A. Coats, Peter Marie, J. W. Clendenin and Joseph D. Baucus.

A dispatch from Ithaca, N. Y., says that, after six months of drilling, during which many obstacles were met, a salt bed 150 ft. thick was struck October 17th at a depth of 2,150 ft. The buildings in connection with the plant are already completed and the well will be piped and salt turned out in the near future. At Brookton, six miles from Ithaca, a well is being driven for oil. At a depth of 2,850 ft. a bed of salt 160 ft. thick, was struck and a salt plant is projected.

The De Lamar Mining Company, limited, of Idaho, makes the following return for the month of September: Crushed during the month, 3,625 tons; bullion produced in the mill, $70,005; estimated value of ore shipped to smelters, $5,500; miscellaneous revenue, $1,360; total produce, $76,865. The total expenses were $38,995, leaving a profit for the month of September of $37,870. The directors have declared an interim dividend (No. 18) for the quarter ending September 30th, of 1s. per share (free of income tax), payable October 30th to all shareholders on the company's books on October 8th, at the London office.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Oct. 18.

PRODUCTION OF BITUMINOUS COAL, in tons of 2,240 lbs., for week ending Oct. 12th, and year from January 1st:

	1895. Week.	1895. Year.	1894. Year.
Shipped East and North:			
Alleghany, Pa.	39,700	2,791,172	916,776
Beech Creek, Pa.	46,925	2,014,700	1,534,325
Broad Top, Pa.	10,850	312,375	280,888
Clearfield, Pa.	68,550	4,752,155	1,977,057
Cumberland, Md	70,435	2,566,653	2,257,270
Kanawha, W. Va.	†74,475	†2,541,202	2,630,443
Phila. & Erie R. R.	850	42,905	58,028
Pocahontas Flat Top	‡47,950	‡2,124,925	2,665,829
Total	354,735	17,146,448	11, 40,576

† Week ending Oct. 7th. ‡ Week ending Sept. 28th.

	1895. Week.	1895. Year.	1894 Year.
Shipped West:			
Monongahela, Pa.	21,375	649,431	531,775
Pittsburg, Pa.	53,150	1,470,253	1,087,207
Westmoreland, Pa.	35,250	1,470,956	1,236,525
Total	89,775	3,590,640	2,855,507
Grand total	456,760	21,062,613	31,596,083

Production of coke on line of Pennsylvania Railroad for the week ending Oct. 12th, 1895, and year from January 1st, in tons of 2,000 lbs.: Week, 124,299 tons; year, 4,451,814; to corresponding date in 1894, 2,504,089 tons.

Anthracite.

The anthracite coal trade continues to show the features which we reported in our last issue. There have not been any more nominal advances, but prices are, if anything, somewhat firmer. This fact has led some of the sales-agents to contemplate another advance, and at an informal gathering of a half-dozen of them on Monday the belief was expressed that if present conditions continue the market will be able to stand a higher price, say $4 for stove, net on board.

Quotations are hard to obtain. The companies quote nominally as follows: $3.75 for stove; $3.60@$3.75 for egg; $3.40@$3.60 for chestnut, and $3.40@$3.60 for broken, f. o. b., less commission where usual. But if a buyer needs coal urgently he must pay what the companies ask, and we understand that coal for immediate delivery has sold for $4 alongside. On the other hand, some sellers state that they have not obtained the full nominal circular. Thus, one of the prominent companies which is known to be well sold up claims that it has not been able to sell its stove for more than $3.60 on board and a small cargo at that.

Coal is scarce and sellers can hold out for good prices. The trouble is not so much in getting orders as in delivering them at once.

The difficulty over the scarcity of water has been somewhat relieved by the recent rains, but other circumstances force producers to restrict whether they will or not. Cars are very scarce on all roads, even on those which have a good equipment. There are other companies whose car supply is poor, not only because of the present improved traffic but because they have not added as much at usual to their rolling stock during the past year, owing to the poor condition of the trade. Thus one of the largest companies, one whose stock has ruled very strong on the Exchange, has eight miles of crippled cars and is also deficient in motive power. Another feature of the situation is the fact that all the companies have neglected to do sufficient dead work during the past year, with the exception of the Reading. If all the companies had done their usual amount of dead work, and had developed the collieries ahead, the financial showing would have startled stockholders. We pointed out this fact months ago, and it will be seen that any profit which may be made on coal at present prices will be swallowed up by the operations necessary to open up the collieries for future work, and also by the needed additions and repairs to the supply of cars and locomotives. There are few producers whose output just now can exceed 59% of this production for June, 1894. These facts combine to impart great firmness to the market, though it must be remembered that October is always a month of heavy tonnages.

In the meantime, as a crisis has been averted, and as it is possible that the winter may be severe, producers seem to feel that the necessity for an "understanding" is not so urgent. No steps in the matter are taken. Everyone seems so be waiting for Mr. J. Piermont Morgan to undertake the reorganization of the Reading. When this is done the other interests will find it easier to come together.

Bituminous.

There is some new business doing in the soft coal market, though producers seem somewhat afraid to handle it, as they still have balances of "delivered" contracts to fill, which they find rather difficult to do on account of the lack of vessels. Buyers have no particular difficulty in placing their orders, but the competition for them is not as fierce as it would be were vessels plentiful. There are some South American orders in the market, but there is also delay in their shipment. This vessel shortage is becoming quite serious and there have been heavy demurrage charges owing to vessels having been banked up at the discharging ports. Should this state of affairs continue much longer shipments from mines to tidewater will have to be reduced. This point, however, probably will not be reached. The Sound ports are taking a large proportion of what coal is coming forward, as usual at this time of the year, since ocean freights are in their favor as against the ports east of the Cape. The all-rail business is increasing and any delay in the regular shipment of orders is promptly followed by protests from the customers.

Transportation continues slow generally, and car supply is short on some roads.

Vessels, as already stated, are very scarce, and as they arrive at the shipping ports are quickly taken up. We quote current rates of ocean freights as follows from Philadelphia: To Boston, Salem and Portland, 70c.; Providence, New Haven, New Bedford, Bridgeport and other Sound ports, 65c.; Wareham, 90c.; Lynn, 85c.@$1; Newburyport, 80@85c.; Portsmouth, 75c.; Dover, $1.25; Saco, $1; Bath, 75c.; Gardiner, 85c.; Bangor, 90c. Towage where usual. Baltimore, Norfolk and Newport News 5c. and 10c. above these rates.

Buffalo. Oct. 17.

(From Our Special Correspondent.)

The anthracite coal trade is good, for the reason the winter supplies for families are being bought. Consumers fear a further advance in quotations. Receipts for lake shipments are more liberal. The exports would have been much larger last week if stocks had been adequate. Lake freights were strong and higher quotations were paid to many ports.

The bituminous coal trade is also good. Vesselmen are hustling matters in view of the high rates of freight prevailing. Fuel bills are no object when prices for carrying are satisfactory.

The shipments of coal westward by lake from Buffalo from October 6th to 12th, both days inusive, aggregated 123,046 net tons, distributed as follows: 49,440 tons to Chicago; 37,825 tons to Milwaukee; 9,300 tons to Duluth; 1,525 tons to Green Bay; 2,600 tons to Manitowoc; 3,600 tons to Racine; 2,600 tons to Gladstone; 1,500 tons to Hancock; 2,075 tons to Toledo; 300 tons to Oscoda; 550 tons to Kenosha; 7,200 tons to Superior; 400 tons to Escanaba; 350 tons to Bay City; 350 tons to St. Ignace, and 3,431 tons by vessels from Tonawanda, destination not stated. The rates of freight were $1 to Racine and Kenosha; 90c. to Chicago; 80c. to Milwaukee, Manitowoc and Green Bay; 65c. to Escanaba; 50c. to Toledo, Oscoda, Portage and St. Ignace; 35c. to Bay City and 30c. to Duluth, Gladstone and Superior. Closing strong.

Strong preambles and resolutions were adopted by the Buffalo Merchants' Exchange last Monday—calling upon the citizens of the State of New York to sanction by their vote at the fall elections the appropriation of $1,000,000 for the improvement and enlargement of the Erie, Oswego and Champlain canals. This is necessary to secure the appropriation as provided by the last Legislature. The matter is wholly a commercial question and politics or partisan feelings should be eliminated entirely.

From opening of navigation to October 1, 1895, 1,471,102 net tons of bituminous, and 257,642 of anthracite passed through the Sault Ste. Marie Canal as compared with 1 487,757 and 362,078 tons respectively in corresponding period of 1894.

The coal shovels at Chicago have struck for an advance of 2c. a ton; receivers having refused to allow it.

Chicago. Oct. 16.

(From Our Special Correspondent.)

Anthracite.—This market is very short of anthracite coal both for shipment from mine and in the city yards and on docks. Some of the companies are almost entirely out of the market, and it is probable that they will be for some time to come. The producers' agencies here are short considerably over 300,000 tons at present, and if the receipts of coal are not larger between now and November 1st it is extremely probable that the shortage will reach 500,000 tons by that time. The demand for anthracite, notwithstanding the shortage, is very large both in carload lots and at retail. Prices are being very well maintained at the advance, and it is expected that another advance will be made shortly. Quotations are now $5@$5.25 for grate and stove in carloads and $6@$6.25 at retail.

Bituminous.—The shortage of anthracite coal has increased the demand for bituminous and it has also been stimulated by the weather. Prices are very well maintained at the advance noted last week, and none of the dealers so far have done any cutting. Wilmington coal is in large demand and the circular rates are well maintained at $1.50 f. o. b. mine. The demand for Brazil block coal is fair, and while prices are at present unchanged it is probable they will be advanced in the near future owing to the additional cost of mining.

Pittsburg. Oct. 17.

(From Our Special Correspondent.)

Coal.—The coal business of this city is the largest for a long time. Consumers generally seem to have lost faith in gas and intend to be prepared should the supply run out. There is nothing new to note as regards the situation on the river. Until we have a rise nothing can be done. Extreme low water since the middle of April is something that does not occur very often. For once the miners are pleased. Operators made greater concessions than had been hoped for. The railroad coal trade is active at present, and the advanced price of $1.15@$1 20 to correspond with the advanced mining rates of October 1st still rules; but new developments in the relations between operators are expected to occur in the near future, the outcome of which will probably affect the price more or less. In adopting a resolution requiring the abolition of company stores by the first of the year, the joint committee of coal miners and operators accomplished an agreement which at one stage of the proceedings appeared improbable, and which is all the more gratifying on that account. Whether this movement will bring about a coal mining millenium will be learned later.

Connellsville Coke.—There is a bad state of affairs in the Yough region. Many plants will be compelled to close down if rain does not fall soon. Water at these mines is exhausted and coke burned up. The river is the lowest ever known. The drought is having its effect to an alarming degree on the coke works in the Connellsville region. The water supply in this section is obtained from the Dunbar Creek and other small runs from the mountains, all of which are dry. The Anchor, Atlas and Mahoning mines have exhausted their water supply and the coke in the ovens burned up. The scarcity of cars caused a decrease of 6,869 tons in the shipment of coke. The strike settlement caused a cutting down of orders from furnacemen and considerable trouble was experienced in securing cars to supply the demand. Ovens in blast, 15,532 and 2,402 idle. The crushed coke trade has been largely increased; the production amounted to 157,362 tons, an increase of 2,197 tons. The average time made by the 75 plants in blast in the region was 5·94 days, gain of 0·13. The H. C. Frick Company made a full six-day run on all its plants in blast. The McClure Company made a full six-day run on all its plants in blast. W. I. Rainey made an all around six days at all his plants. Shipments amounted to 8,910 cars. To Pittsburg, 2,486 cars; to points East, 1,714 cars; to points West, 4,710 cars. Advanced prices; furnace coke $1.60; foundry coke, $2; crushed coke all sizes, $2.25.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Oct. 18, 1895.

Pig Iron Production and Furnaces in Blast.

Fuel used.	Week ending Oct. 19, 1894 F'ces.	Tons.	Week ending Oct 18, 1895. F'ces.	Tons.	From Jan. '94. Tons.	From Jan., '95. Tons.
Anthracite.	31	17,401	56	34,250	675,142	913,518
Coke...	119	137,002	150	172,450	3,845,305	5,995,794
Charcoal...	22	4,745	22	4,830	171,240	172,975
Totals ...	172	159,148	228	211 530	4,691,687	7,082,287

The iron market is in much the same condition as we reported it last week. The effort to force a reaction, while it was practically a failure, succeeded in forcing out some speculators and in securing a partial and very irregular decline in some descriptions, notably in Bessemer pig and steel billets. It had also the effect of holding back some large buyers, and a number of that class are evidently waiting to see if they cannot secure lower prices. On the other hand furnace-owners and mill-men are satisfied to wait; they are generally full of orders for the present and feel confident that the necessities of buyers will bring them to terms long before work begins to grow scarce. A large decrease of stocks of raw iron in September is a favorable feature. It is claimed on the other hand that the large increase in production will have a tendency to lower prices; but there is no present evidence of this. Some makers, however, seem to be of the opinion that prices have about reached the highest level where they can be maintained, and an increasing willingness to take contracts for 1896 delivery at current prices is manifested.

There is some anxiety about next season's iron ore supply. There is, however, really nothing to indicate any difficulty in obtaining all the ores which will be required.

NOTES OF THE WEEK.

The Southern Railway Company announces the following rates on Southern pig iron to Eastern points, taking effect October 21st.

To	From Chattanooga.	From Birmingham.	From Sheffield.
Boston, all rail.....	$5 84	$6.19	$6.19
" rail and water	3.99	4.10	4.20
New York, all rail	.....	.....	.....
" rail and water.....	3 64	3.75	3.85
Phila delphia, all rail.....	4.52	4.77	4.87
" rail and water....	3.64	3.75	3.85
Baltimore, all rail	4.01	4.26	4.36
" r-il and water.....	3 49	3.60	3.70
Norfolk for export...	2.10	2.21	2 31
Newport News for export.....	2.10	2.21	2 31

These rates are all per gross ton (2,268 lbs.) in carloads of not less than 17½ tons. The export rate is on through shipments only.

The joint tariff on pig iron from Southern to Western points adopted by the Southern Railway Company took effect October 15th. The rates to leading points are as follows:

To	From Birmingham.	From Chattanooga.	From Sheffield.
Cincinnati.....	$2.75	$2.25	$2.50
Terre Haute.....	3.15	2.90	2.90
Toledo.....	3.65	3.15	3.40
Chicago	3.85	3.60	3.60
Omaha.	5.00	5.00	4.55
St. Louis	3.25	3.00	2.80
Kansas City.....	5 00	5.00	4.55
Burlington, Iowa..	3.85	3.60	3.60
Cleveland	9.85	3.35	3.60
Youngstown, O.....	3.95	3.45	3.70
Wheeling	4.40	3.90	4.15
Pittsburg.....	4 40	3.90	4.15

These rates are all per ton of 2,268 lbs., in carloads of 17½ tons.

THE LOCAL MARKET.

The New York market is quiet as usual, but there is, nevertheless, a sufficient demand to keep all prices steady. The local and near-by foundries and shops are all full of work, and a recent attempt to place some construction work needed in a hurry was met everywhere by the response that the shop was full and new work must wait.

Pig Iron.—The conditions are much the same as last week; a steady demand and prices well maintained. Some iron has again been sold at a concession, but it was below grade and will probably be dearer in the end than good iron would have been. Prices are unchanged.

We quote for Northern brands as follows: No. 1 X, $14@$14.50; No. 2 X, $13@$13.50 gray forge, $12.50@$13. For Southern iron, prices are: No. 1 foundry, $13 75@$14; No. 2 foundry, $13.25@$13.75; No. 1 soft, $13.75@$14; No. 2 soft, $13.25@$13.75; forge, $12.50@$13. All prices are for tidewater delivery.

Cast Iron Pipe.—Several new contracts are reported, and there are a number of small orders coming in. Deliveries to New England points continue large.

Steel Billets.—While there is no rush now for billets, there is also no anxiety to sell. At the same time billets may be bought for less money than a few weeks ago, when it was almost impossible to fill orders. It is still hard to secure early deliveries. Quotations are $23.50@$24, equivalent to $24.50@$25 at tide water.

Spiegeleisen and Ferro-Manganese.—The mar-

ket is quiet, and prices are steady. We quote foreign spiegeleisen $25@$26 per ton; ferro-manganese $52@$53.

Merchant Steel.—There is somewhat more activity, and prices are firm. There has been no change, and the mills are not making any effort to secure orders. We quote: Bessemer machinery, 1·60@1·70c.; open-hearth machinery, 1·75@1·90c.; soft steel bars, 1·45@1·55c.; steel hoops, 1·60@1·75c.; steel axles, 1·55@1·70c.; links and pins, 1·70@1·80c.; tire steel, 1·85@1·95c.; spring, 2·10@2·25c., all delivered.

Structural Iron and Steel.—Two or three contracts of good size have been let, and several more are reported in negotiation. While the market is not especially active there is no weakness, and prices are steady. Quotations are: Angles, 1·70@1·85c.; beams (up to 15-in.), 1·80@1·90c.; channels, 1·90@2c.; tees, 1·90@2c.

Plates.—The demand continues steady and the mills are in no hurry for orders at present. Prices are unchanged. Universal mill plates continue at 1·90@1·95c. For steel plates we quote: Tank, 1·90@2c.; boiler shell, 2·05@2·20c.; flange, 2·10@2·25c.; firebox, 2·50@2·70c., according to size and quality.

Steel Rails and Rail Fastenings.—Quotations for standard sections are $28 at mill, or $28.75 at tidewater. There are still inquiries for street rails, and some large contracts, it is said, will soon be on the market for that class of work. Several small orders for standard rails have been placed; most of the larger contracts are made elsewhere. For rail fastenings we quote: Fish and angle-plates, 1·45@1·50c.; spikes, 1·80@1·85c.; bolts, square nuts, 2@2·15c.; bolts, hexagon nuts, 2·10@2·20c.

Scrap.—The demand for foundry scrap is more active, and supplies are again scarce. We quote $10.50@$12 per ton, but it is not easy to fix prices, as many lots are taken up on private terms.

Buffalo, N. Y. Oct. 16

(Special Report of Rogers, Brown & Co.)

We have no material change to note since our report last week. Lake Superior charcoal iron has been quiet and few sales reported. Coke iron made from Lake Superior ore has shown, if anything, more activity. The larger buyers have seemed to be more interested in watching the market than for some time past, and a few sales have been reported running through several months at the full market price. Furnaces in this district seem to be more bothered to get iron forward than to market their product. The scarcity of cars is being felt more and more every day, and it begins to look as though the railroads must furnish new equipment very soon. We here are not in a position to judge accurately what is going on in railroad circles, yet it would seem from our lights that the railroads are in more of a buying mood than they have been. One large concern running entirely on railroad work has been in the market for extended delivery, and shows evidence of having taken large contracts in the past week or two. Taken altogether, the situation seems to grow stronger in this territory. We quote on the cash basis f. o. b. cars Buffalo: No. 1 Strong Foundry Coke Iron, Lake Superior ore, $15.25@$15.75; No. 2 Strong Foundry Coke Iron, Lake Superior ore, $14.75@$15.25; Ohio Strong Softener No. 1, $16.25@$16.75; Ohio Strong Softener No. 2, $15.25@$15.75; Jackson County Silvery No. 1, $16 25@$17; Lake Superior Charcoal, $16.25@$16.75; Southern Soft No. 1, $15.15@$15.65; Southern Soft No. 2, $14.65@$15.05; Hanging Rock Charcoal, $18.50.

Chicago. Oct. 16.

(From Our Special Correspondent).

Business in the past week has been rather quiet in all branches of the iron and steel trades, no sales of any particular size having been made. Prices are very firm, however, and there is very little fear entertained that they will go any lower than the present basis.

Pig Iron.—The furnaces in this district are full of orders and are not pushing for trade, and this, together with the fact that nearly all of the foundries in this district are well supplied for their present needs, shuts off any heavy buying. The sale of Southern iron has also been rather small for the same reason. Lake Superior charcoal iron is in fairly good demand and several good sized contracts were closed last week. Prices are very firm and are made as follows: Per gross ton f. o. b. Chicago: Lake Superior charcoal, $16; Lake Superior coke No. 1, $15@$15.50; No. 2, $14.50@$15; No. 3, $14@14.50; Local Scotch No. 1, $15; No. 2, $14.50; No. 3, $14; Jackson County silveries, $15 50@$16; Southern coke, foundry, No. 1, $14.25; No. 2, $14; No. 3, $13.75; Southern soft, No. 1, $14.25; No. 2, $14; Southern car-wheel iron, $17.50; Southern silveries No. 1, $15.25; No. 2, $15; Tennessee charcoal No. 1, $13@$13.50; Bessemer, $18. Ohio strong softeners, $15@$15.50.

Structural Material.—The demand for structural material has been light during the past week, the only contract of any size that has come in the market being about 700 tons for the public library building at Milwaukee. This will probably be let within a few days. Quotations are as follows: For universal plates, 2·10@2 20c.; beams and channels, 1·90@2c; angles, 1 85@1·90c; tees, 2@2.10c.

Merchant Steel.—The demand from agricultural implement makers has fallen off, as they have nearly all placed their contracts for the coming season. Wagon makers will come in the market at an early date to place their contracts, and until then it is expected that business will be light. Quotations are: Tool steel, 5@7·50c.; Bessemer bars, 1·65@1·75c.; smooth finished machinery, 1·95@2c.; tire steel, 2·20@2·25c.

Bar Iron.—Car-builders have come in the market in the last week for large quantities of bar, and several good-sized contracts of 500 and 1,000 tons each were placed. General inquiry is light, but it is expected that it will be better in the near future. Prices are made at 1·50c. for common iron, 1·60@1·65c. for refined, and 1·65@1·75c. for soft steel bars.

Billets and Rods.—The inquiry for soft steel has been fairly good in the last week, and an average week's business has been done by the local mills. Billets are quoted at $26@$27, and rods at $31@$35.

Steel Rails.—The week has shown a fair tonnage closed by the local mill, and it is expected that several of the Western roads will come into the market for heavy lots in the near future. The local company is well filled with orders and is not pushing for business on that account. Quotations are made at $29 and upward, according to specifications.

Cleveland, O. Oct. 17.

(From Our Special Correspondent.)

The feature of the iron ore market is lake freights rather than sales. The carrying charges ran higher last week than they have been for several years, and shipments of ore were largely curtailed. Yesterday and to-day there has been a weakening in the freights. The Escanaba rate dropped from $1.25 to $1.10. The transportation of ore is in consequence promises to progress more rapidly. The ore men are not doing much yet in the way of establishing charter rates for next season. Some negotiations were pending and some few contracts closed for boats from Duluth to Ohio ports at $1, when the continued climbing of current rates drew off the vessel owners, who are now asking $1.25 per ton for next year. This the ore men refuse, and for the present negotiations are off. Until something more definite is known about the carrying charges for next year prices will not be fixed.

Prices for the week are as follows: Standard Bessemer specular, $4.75@$5.25; standard Bessemer hematites, $4.25@$4.50; standard non-Bessemer specular, $3.75@$4; standard non-Bessemer hematites, $3 25@$3.50.

Philadelphia. Oct. 24.

(From Our Special Correspondent.)

Pig Iron.—As to actual orders for and sales of foundry and forge iron, there have been very few worth making note of. The small reductions in prices refer to irons which owners are trying to sell. The pressure to sell is stronger than it was a week ago, and buyers are correspondingly indifferent. The iron offered at 50c. less needs that inducement and more to sell it. Bessemer transactions have taken place, but under the ban of secrecy as to prices. Outsiders say there has been a sharp drop. Behind all these considerations there is the belief in some quarters that another advancing tendency will take possession of the market. No. 1 is quoted at $14; No. 2, $13; Forge, $12@$13. The better makes, those most desired, are not in the market at all.

Steel Billets.—More interest is manifested in billets this week than last because of the decline in prices, which buyers here imagine will soon be low enough to warrant them in covering to a moderate extent. Western makers have sent agents to personally work this field, and in a few days there will be some definite information as to sales and prices.

Merchant Iron.—The mills are all running full, and in order to keep them so, some makers of iron are offering to furnish what they call good, first-class iron at 1·35 delivered. They are led to do this by Western mills that are attacking us. It is evident that old-time competition is coming back, and it is difficult to see how some of our Eastern ramshackle mills can keep going. The stores are selling a good deal of bar iron.

Nails.—The pressure for nails is over and speculators are weakening the market by the rapidity of their unloading.

Skelp.—Manufacturers are anxious for business, but they are holding out for fair margins. Grooved skelp is 1·40@1·50.

Sheet.—Some winter delivery orders were booked yesterday; price not given. The larger buyers will not purchase for winter at present. Small orders are quite numerous, and all mills are busy.

Pipes and Tubes.—The improvement in machine shop and general construction work is helping this branch just now.

Plate and Tank.—Agents for mills have been over the territory looking up winter work probabilities. Their reports are very good. New work ought to begin to come in soon. Concessions are offered, but the pressure of severe competition is not yet felt. Open quotations are 1·85 for tank, 1·80@1·90 for heavy plates; shell, 2@2·10.

Structural Material.—Similar efforts have just been completed in this branch, and the results are that a large amount of bridge iron is to be contracted for right away, though the negotiations are not through. The question of price is the chief one. Small orders are plenty.

Steel Rails.—The sales reported this week, according to a local authority, indicate a purpose to push repairing and re-laying rapidly. The orders received at mill are mostly for small lots, and come from widely scattered places.

Old Rails.—Offers at a reduction of $1 are said to be under consideration.

Scrap.—The kind of scrap most wanted is scarce, or almost impossible to get this week, and consequently stray lots bring good prices.

Pittsburg. Oct. 17.

(From our Special Correspondent.)

Raw Iron and Steel.—Business since our last has shown a reasonable amount of activity, under the circumstances, in most departments and the conditions affecting future trade have to a certain extent been unfavorable. The iron trade has been quiet; prices of Bessemer pig and steel billets are very uncertain, and signs of weakness in values in the finished iron trade have induced a feeling of uncertainty as to the future of the market which has restricted new business to a certain extent. Buyers are evidently waiting to test the capacity of the market to absorb the greatly increased output. Speculative holders of Bessemer pig iron who held on to their purchases too long have discovered their mistake, and are very anxious to realize; this fact has weakened the market to a certain extent. At the same time Pittsburg makers of standard metal are holding for the full rates for their products; of course, there are outside parties who being anxious to realize, do make slight concessions in order to dispose of their products. The decline has not been sufficient to start up a new demand; the high prices that recently ruled have undoubtedly checked the consumption, but there is as little doubt that lower prices will stimulate buying again, and the trade seems to be waiting for this feature to manifest itself. Meanwhile the advance in freights, coke and ore will soon be felt by producers; all will remind consumers that quotations cannot go down very much for the production is now at the maximum. The present feeling in the trade is not one of discouragement, however, as it is believed that the absence of demand is due more to an attempt to adjust prices rather than to any falling off in consumption. Stocks of pig iron on hand, October, show a decrease compared with September of 42,759 tons, which shows that stocks in first hands are rapidly disappearing.

Tons.	COKE-SMELTED, LAKE AND NATIVE ORE.	Cash.
5,000	Bessemer, Dec. to April, Pittsburg	$15.70
5,000	Bessemer, all year, Valley	14.75
5,000	Bessemer, all year, Valley	14.50
2,000	Bessemer, all year, Valley	14.60
2,000	Bessemer, Nov., Dec., Pittsburg	15.65
2,000	Bessemer, all year, Valley	15.50
1,000	Bessemer, all year, Valley	14.70
1,600	Gray Forge, Nov., Dec., Pittsburg	13.15
1,000	Gray Forge, Oct., Nov., Pittsburg	13.00
1,000	Bessemer, Dec., Jan., Pittsburg	15.75
500	No. 2 Foundry, Pittsburg	14.50
500	Gray Forge, Pittsburg	13.25
400	Gray Forge, Pittsburg	13.20
300	White and Mottled, Pittsburg	12.25
250	No. 1 Foundry, Pittsburg	15.25
100	No. 2 Foundry, Pittsburg	14 25
100	No. 1 Silvery, Pittsburg	14.60
	CHARCOAL.	
100	Cold Blast	$24.00
50	Cold Blast	23.50
50	No. 2 Foundry	17.25
50	No. 2 Foundry	17.50
50	Cold Blast	23.75
	BLOOMS, BILLETS AND SLABS AT MILL.	
5,000	Billets, Oct. to Jan., Wheeling	$21.50
3,500	Billets, Nov., Dec., at mill	23.25
2,500	Billets, balance of year, Wheeling	22.00
1,000	Billets, Oct., Nov., at mill	23.00
1,000	Billets, Nov., Dec., at mill	23.20
500	Billets, Oct., Nov., Valley	22.75
500	Billets, prompt, at mill	23.00
	SKELP IRON.	
600	Nr'w gr'v'd	$1.50 4 m.
500	Wide gr'vd	1.50 4 m.
300	Sheared	1.75 4 m.
	SKELP STEEL.	
720	Sheared	$1.65 4 m.
700	Wide gr'vd	1.40 4 m.
640	Nr'w gr'vd	1.40 4 m.
	MUCK BAR.	
1,000	Neutral, Oct.	$22.80
500	Neutral, Nov.	23.00
500	Neutral, Oct., Nov.	23.25
	STEEL WIRE RODS.	
650	5-gage	$30.00
	BLOOMS, BILLETS AND BAR ENDS.	
1,200	Bloom and Billet Ends	$17.00
	SHEET BARS.	
500	At mill	$26.00
	FERRO-MANGANESE.	
500	80%	$56.00
100	80%, Foreign	56.25
	SPELTER.	
50	Prime Western	$4.10
	OLD RAILS.	
1,000	Iron Rails	$19.00
500	Steel Rails, long	16.50
300	Iron Rails	18.75
200	Steel, short	17.00
	SCRAP MATERIAL.	
500	No. 1 Cast Scrap, gross	$12.50
500	No. 1 R. R. Wr'g't Scrap, net	$15.50
400	Old Car Wheels, gross	12.25
300	Cast Borings, net	8.50
250	Wrought Turnings, gross	9.25

METAL MARKET.

NEW YORK, Friday Evening, Oct. 18, 1895.

Gold and Silver.

Prices of Silver per Ounce Troy.

October.	St. Ex.	London Pence.	N. Y. Cts.	Value of sil. in $1.	Oct.	St. Ex.	London Pence.	N. Y. Cts.	Value of sil. in $1.
12	4 87¼	31⅜	68½	.530	16	4.87¼	31⅛	68	.526
14	4.87¼	31⅛	68	.526	17	4.87⅛	30⅞	67⅝	.525
15	4.87¼	31⅛	68	.526	18	4.87⅛	30⅞	67⅝	.525

Silver has not maintained the high figure of 31⅝d., which was brought about by artificial rather than

natural means. At this price orders were supplied, and Eastern banks not being keen bidders, the market yielded. For a few days buying has been limited and prices have sagged ¼d. Speculation in this market has also flattened out. General business in the East, however, has been reported as good.

The United States Assay Office at New York reports the total receipts of silver at 146,000 oz. for the week.

Gold and Silver Exports and Imports.

At all United States ports, September, 1895, and years 1895 and 1894 in coin and bullion:

	Gold.		Silver.		Total excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
Sept.	$17,424,065	$749,456	$5,397,944	$1,781,193	E. $20,291,360
1895..	73,190,2 2	28,839,929	38,663,160	7,980,664	E. 75,032,859
1894..	90,506,508	16,691,345	35,335,425	7,345,753	E. 101,804,835

Imports and exports of gold and silver in ores for the nine months to September 30th are reported as below:

	Gold		Silver	
	1894.	1895.	1894.	1895.
Imports	$567,669	$1,306,112	$5,679,930	$9,128,483
Exports	25,559	326,653	200,101	99,985
Excess, Imports.	$542,110	$979,459	$5,479,829	$9,028,498

These imports and exports in ores are not included in the table of exports and imports of coin and bullion given above.

Adding the exports and imports in ores to those in coin and bullion, we have the following statement for the nine months of the present year to September 30th:

	Exports.	Imports.	Excess.
Gold	$73,516,935	$30,146,051	E. $43,370,884
Silver	38,763,145	17,109,147	E. 21,653,998
Total	$112,280,080	$47,255,198	E. $65,024,882

The statement includes all United States ports, the figures being furnished by the Bureau of Statistics of the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending October 18th, 1895, and for years from January 1st, 1895, 1894, 1893 and 1892:

	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	$584,476	$1,164,689	$185,290	$5,660	I. $100,574
1895..	58,589,498	27,238,257	31,254,349	1,412,291	E. 61,193,309
1894..	85,316,346	14,896,033	28,029,508	1,440,487	E. 97,009,334
1893..	70,129,547	57,914,370	25,739,113	2,986,936	E. 34,967,357
1892..	59,043,353	7,2?3,984	17,230,719	2,322,079	E. 66,668,009

The gold exported for the week went chiefly to the West Indies; the silver to London. The gold imported was partly from France and partly from the West Indies; the silver from Mexico.

FINANCIAL NOTES OF THE WEEK.

The general condition of business continues good and the steady demand for manufactured products shows no signs of falling off. It is evident, as it has been for some time past, that the country is stocking up on a liberal scale after the long abstention from buying which was partly caused by, and itself partly caused, the long depression through which we have passed. How much further the general increase of prices is going is an interesting question; it may be said now that the bringing into the market on a large scale of plants that have been idle and of new establishments is beginning to have its natural effect, and in all probability it will not be long before the ordinary results of competition will be felt. The increased cost of raw materials, and the steady demand will, however, prevent any notable fall from the present levels for some time to come.

In the speculative markets the "bear" party which has ruled so long on the New York Stock Exchange seems to have increased trouble in maintaining its position. Outside speculation has been turned in other directions and has made itself felt in the produce markets, notably in cotton.

Exchange on London is higher this week. The supply of cotton bills has been small, owing to the check on exportation due to the high price to which speculation has forced that staple. Grain bills are still scarce. This cannot continue very long, however, and bills will doubtless be in better supply soon. No gold exports are reported for the week to Europe, but $400,000 were sent to Buenos Aires.

The meeting of the American Bankers' Association in Atlanta this week was largely attended, and there were some notable papers and addresses by W. P. St. John, of New York, Edward Atkinson, of Boston, George N. Aldredge, of Texas, Wm. R. Morrison, of Minnesota, and others. The general expression of opinion was in favor of a thorough reform of the currency. Mr. E. H. Pullen, of New York, was chosen president; R. J. Lowry, of Atlanta, vice-president.

An event of the week was the speech of Secretary Carlisle to the Massachusetts Reform Club in Boston, in which he advocated the withdrawal of all government issues and the adoption of an improved system of bank issues; without specifying any particulars, however.

W. S. Weir, president of the Bank Ville Marie, and Thomas McDougall, general manager of the Quebec Bank, as representatives of the banking section of the Board of Trade, have called the attention of the Canadian Finance Minister to the fact that the circulation of United States silver in that country is increasing to an extent which causes the banks a good deal of trouble. They urged as a remedy that the silver coinage of Canada be increased, stating that such a course would be profitable to Canada.

The foreign merchandise trade of the United States is reported by the Bureau of Statistics, Treasury Department, as follows for the nine months ending September 30th:

	1894.	1895.
Imports	$576,618,276	$557,930,846
Exports	503,590,042	600,983,122
Excess	E. $73,028,234	I. $43,052,276

The imports and exports of gold and silver will be found in their usual place, at the head of this column.

The statement of the United States Treasury on Thursday, October 17th, shows balances in excess of outstanding certificates as below, comparison being made with the corresponding day of last week:

	Oct. 10.	Oct. 17.	Changes.
Gold	$93,041,542	$?3 109 481	I. $67,939
Silver	15,990,229	15,801,662	D. 188 567
Legal tenders	50,539,453	51,237,805	I. 698,352
Treasury notes, etc.	29,693,502	28,275,?06	D. 1,417,596
Total	$189,264,726	$188,421,854	D. $839,872

Government deposits with national banks on the same date amounted to $15,337,175, an increase of $919,036 during the week.

Total United States Treasury notes issued under act of July 14th, 1890, in general circulation and in the Treasury, $142,690,2?0. Against these are held in the Treasury 18,088,608 coined standard silver dollars, and silver bullion purchased at a cost of $124,001,762, making a total of $142,690,370.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending October 12th gives the following totals, comparisons being made with the corresponding weeks in 1894 and 1893:

	1893.	1894.	1895.
Loans and discounts	$395,716,600	$500,168,200	$506,606,000
Deposits	412 456,200	590,859,100	533,491,2?0
Circulation	14,956,800	11,553,700	14,3?7,300
Specie	90,379,100	92,?90,900	60,861,900
Legal tenders	46,63?,700	115,671,200	86,687,800
Total reserve	$137,010,10?	$208,562,100	$147,549,7?0
Legal requirement	103,114,050	147,?14,775	133,872,800
Surplus reserve	$33,896,050	$60,747,325	$14,176,900

Changes for the week were decreases of $2,294,625 in surplus reserve, $3,596,200 in loans, $76 000 in deposits; an increase of $3,870,700 in legal tenders, and $6,608,300 in specie; an increase of $53,700 in circulation.

For convenience of comparison, we have grouped together in the table below the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding dates last year:

	Gold.	Silver.	Total.
Asso. Banks of New York			$60,861,900
1894			92,215,100
Bank of England	$205,786,125		205,786,125
1894	183,248,005		183,248,005
Bank of France	392,842,?00	$246,884,200	639,726,9?0
1894	378,493,349	248,644,470	627,137,819
Imp. Bank of Germany			225,081,000
1894			232,220,000
Austro-Hungarian Bank	109,490,000	65,017,000	174 507,?00
1894	69,8?6,000	73,584,000	144,470,000
Netherlands Bank	21,365,000	33,904,000	55,269,0?0
1894	20,318,000	33,846,?00	54,194,000
Belgian National Bank			21,446,000
1894			22,726,000
Bank of Spain	40,022,009	56,385,000	96,407,000
1894	40,020,000	48,188,000	88,208,000
Bank of Italy	59,725,0?0	9,275,000	69,?00,000
1894			
Imp. Bank of Russia	355,?60,000	57,?00,000	409,?60,000
1894			

The return for the Associated Banks of New York is of date October 12th; all the others are of date October 17th, except the Bank of Italy, whose return is dated September 10th, and the Bank of Russia, August 16th-28th. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports its gold only, not considering silver at all. The Imperial Bank of Germany and the Belgian National Bank do not report gold and silver separately.

Shipments of silver from London to the East for the year to October 3d are reported by Messrs. Pixley & Abell's circular as below:

	1894.	1895.	Changes.
India	£4,144,615	£2,818,680	D. £1,325,935
China	2,211,909	1,451,724	D. ?60,185
The Straits	1,046,646	614,803	D. 431,843
Total	£7,403,170	£4,885,207	D. £2,517,963

Imports for the week were £25,000 from Chile, £92,000 from the West Indies, and £189,000 from New York in bar silver, and £16,009 in Mexican dollars from New York; a total of £322,000 for the week.

The amounts and descriptions of specie shipped from San Francisco for the nine months ending September 30th compare as follows:

	1894.	1895.
Silver bars	$ 5,067,875	$ 6,402,098
Mexican dollars	4,029,029	6,197,215
South American dollars	141,512	7,498
Gold coin	11,478,860	7,1?9,737
Silver coin	576,978	260,943
Gold dust	311	3,997
Total	$21,294,595	$19,981,428

The destination of the above shipments were as follows:

	1894.	1895.
Hongkong	$4,120,081	$8,362,936
Shanghai	244 ?00	3,417,100
Japan	4,?73,434	645,794
Central America	359 ?8	268,298
Honolulu	281 950	271,?40
Mexico	10,?00	4,850
Samoa	?,000	
New York	11,361 922	7,011,380
Total	$21,294,595	$19,981,428

The shipments in September were the largest ever reported in one month.

Indian exchange shows a slight falling off this week, the demand being lighter and the price a fraction lower than last week. The full amount of 50 lakhs of Council bills was taken, however, the average price being 13 5/16d. per rupee. The demand was largely on Japanese account.

Domestic and Foreign Coins.

The following are the latest market quotations for the leading foreign coins:

	Bid.	Asked.
Mexican dollars	$0.53½	$0.54½
Peruvian soles and Chilean pesos	.48	.50
Victoria sovereigns	4.87	4.90
Twenty francs	3.86	3.90
Twenty marks	4.75	4.80
Spanish 25 pesetas	4.78	4.83

Other Metals.

Copper.—The market has continued very dull, business being almost at a standstill. This especially refers to business so far as concerns sales to manufacturers, who though very busy with old orders are complaining of a material falling off of new. This may in particular be said of the wire-drawing industry, which, however, appears to be quite natural, as during the winter season, which is fast approaching, very little wire is strung. Generally speaking, manufacturers appear to be well supplied for this and next month, and in some instances even for December. If in the meantime there should be any apparent anxiety to market copper in larger quantities, it could probably be done only at a sacrifice in price, which producers are not as yet ready to make.

The situation depends very largely too on the demand for export. Foreigners will certainly have to buy a good deal of copper from us, but at the present time they are willing to do so only at prices very much lower than those ruling here, and with but few exceptions, producers have not been willing to make any concessions. We quote Lake copper 12c., electrolytic 11⅝@11¾ and casting 11¾@11⅞.

The London market has continued in a declining tendency, and at one time touched £45 15s. for g. m. bs. spot, but closes somewhat better at £46 5s. for spot and £46 7s. 6d, for three months prompt. Other kinds are quoted as follows: English tough, £50@ £50 5s.; best selected, £50 10s.; strong sheets, £56 10s.; India sheets, £53; yellow metal, 4⅝d. The statistics for the first half of the month show an improvement of 100 tons.

The following figures give the production (in tons of 2,240 lbs.) of copper in the United States and also by the chief foreign mines, with the exports from the United States, for September, and the nine months ending September 30th.

Production, fine copper, long tons:	September, 1895.	Nine months 1894.	Nine months 1895.
Reporting mines, U. S.	14,251	109,662	111,677
Pyrites and outside sources, U. S	1,160	12,380	12,400
Reporting foreign mines	6,947	66,730	63,548
Total production, tons	22,298	188,772	187,625
Exports from U.S., fine copper	4,106	59,662	48,127

While the total production for the nine months shows a decrease of 1,147 tons, or 0·6%, the exports from the United States decreased 11,535, or 24%, chiefly owing to increased home demand.

Copper Exports.—The exports of copper from the port of New York during the week ending October 18th, as reported by the New York Metal Exchange, were as follows.

Copper:		
Antwerp—Kensington	Ingots	2 tons.
"	Cakes	5 "
Genoa—Werra	Plates	100 "
Rotterdam—Veendam	"	140 "
Hamburg—Prussia	Bars	5 "
" "	Cakes	5 "
" —Marsala	Ingots	20 "
" "	Cakes	20 "
Liverpool—Lucania	Ingots	11 "
Matte:		
Swansea—Jersey City		90 tons.
Liverpool—Brittania		105 "

The exports of copper from the port of Baltimore for the week ending October 18th are reported by our special correspondent as follows:

Copper:		
Antwerp—Norse King	222 Bars	22,532 lbs.
Rotterdam—Tabasco	2,482 Plates	224,052 "
" "	640 Bars	112,169 "
" "	2,112 Ingots	35,840 "
Hamburg—California	900 Cakes	230,809 "

This is a total of 308 long tons of copper, and 195 tons of matte from New York, and of 279 tons of copper from Baltimore; making a total of 587 tons of copper and 195 tons of matte exported for the week. The receipts noted at New York for the week were 25 tons of bars from Hamburg.

Tin, which closed very strong at the end of the week, could not maintain the improvement, and values experienced quite a serious decline, business having been done at as low as 14½, or a decline of 35c. a hundred from the highest, as compared with a drop of only 25s. in the London market, which opened at the beginning of the week at £66 10s., closing to-day at £65 5s. for spot and £65 12s. 6d. for three months prompt, the weaker tendency being due partly to the realization of speculative holdings, and partly the result of lower values established for silver, which during the previous week had been in an advancing and very strong condition.

Lead opened very strong at the beginning of the week, but with London declining, orders fell off, without however affecting values to any marked extent. That that was not the case is to be attributed to the fact that offerings of the metal have been of very scant nature, refiners being evidently well sold ahead and not obliged to press their metal for sale. The market has furthermore been very much relieved in so far that we are advised that very heavy sales of lead in bond have been made for export. With London somewhat steadier to-day, it is to be assumed that the price as now ruling, viz., 3⅝, is likely to be maintained.

The London market early this week was firm at £11 6s. 3d., declined subsequently to £11 2s. 6d. for Spanish, but closes to-day at £11 3s. 9d. and £11 6s. 3d. for English.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: During the past few days the market was pretty active with sales according to brands and quality at 3·12½@3·20. To-day the European market showed symptoms of a decline which, of course, affected seaboard markets as well as our own; still liberal sales were made at 3·15 and 3·17½.

Spelter continues very dull, and not enough orders to keep prices where they now are. Unless the demand improves we fear that with a full production, such as we now have to contend with, values cannot be permanently maintained. The latest advices are to the effect that spelter is selling at 3·90 in St. Louis, while in the East it is offered at 4·15.

Abroad the market remains steady at £15 5s. for common and £15 7s. 6d. for specials.

Antimony.—Values remain unchanged; 7¾ for Cookson's, 7⅛@7¼ for Hallett's, and 7¼ for United States Star.

Nickel.—Prices are unchanged, and demand is lighter. We quote 34@37c. per lb.

In London quotations are steady at 12@13d. per lb. Paris quotations are unchanged at 4 fr. per kilo. (equal to 35c. per lb.) for pure metal, and 2@2·25 fr. per kilo. for copper-nickel alloy, 50% nickel. These prices are shaded on large orders.

Quicksilver.—As we anticipated two weeks ago, the price, after several fluctuations, has been raised over that prevailing for some time past. The quotation is now $40 per flask, New York. The London price is £7 7s. 6d. per flask, with £7 5s. quoted from second hands.

Receipts of quicksilver at San Francisco in September were 3,012 flasks. For the nine months ending September 30th the receipts were 23,546 flasks, against 19,619 for the corresponding period last year, and 16,841 in 1893. The exports by sea for the nine months were: New York, 7,500; British Columbia, 44; Central America, 201; Mexico, 3,518; New Zealand, 30; total, 11,293 flasks, against 11,236 last year. For the eight months to August 31st shipments overland by rail were 7,705 flasks, an increase of 727 flasks over last year. Rail shipments for September are not yet reported.

Imports and Exports of Metals.—Imports of metals into this port for the week ending October 12th, as reported by the New York Metal Exchange, were as follows: 420 tons spiegeleisen from Antwerp; 235 tons ferro-manganese from Liverpool; 500 tons manganese ore from Japan; 3,000 tons iron pyrites from Spain; 46,081 boxes tinplates from the United Kingdom; 250 tons tin and 34 casks antimony from London; 75 casks antimony from Newcastle; 100 tons lead (duty paid) from Spain.

Exports of metal from the port of New York for the week were: 62 tons of sulphate of copper to Mexico; 15,000 lbs. of aluminum to Liverpool.

Arrivals at Philadelphia for the week ending October 12th were: 65 tons tin from London; 9,100 tons manganese ore from Asiatic Russia; 9,400 tons iron ore from Cuba; 3,120 tons iron ore from Spain.

Arrivals at Baltimore for the week ending October 12th were: 199 tons ferro-manganese and 1,123 boxes tin plates from Liverpool.

Exports from Baltimore for the week ending October 18th are reported by our special correspondent as follows: 39,715 lbs. tin scrap to Rotterdam; 117 bbls., 67,275 lbs. sulphate of copper to Hamburg.

CHEMICALS AND MINERALS.

New York, Friday Evening, October 18th.

Heavy Chemicals.—There is a fair demand for most of the heavy chemicals, and prices are firm and in some cases slightly higher. Caustic soda is in good request for 1896 delivery, and sellers maintain prices as they affect to believe that an advance is more probable than a decline. Alkali and carbonated soda ash are also in good demand, and several fair sales, both for prompt and future delivery are reported. Bleaching powder is rather quiet.

We quote: Caustic soda, 2·15@2·25c. for spot; Carbonated soda ash, 48%, is ·95@1c., according to quantities and deliveries. Alkali is ·90@1·05c., according to test. Bleaching powder, $1.85@$1.95, with little offering at those prices. Sal soda, 70@80c.

Acids.—The consumption has been increasing faster than the production and prices are firm. We quote, per 100 lbs. in New York and vicinity, in lots of 50 carboys or over as follows: Acetic acids (in barrels), $1.40@$1.70, according to make and size of order. Muriatic acid, 18°, 75@90c.; 20°, 90c.@$1.15. Nitric acid, 36°, $3.50@$4; 40°, $4@$4.50; 42°, $4.75@$4.25. Oxalic acid, $7.10@$7.60. Mixed acids, according to mixture. Sulphuric acid, 66°, 75@85c.; chamber acid, $6.50@$7.25 per ton at factory. Blue vitriol is in demand, with sales at $3.90@$4.10 according to size of order.

Brimstone.—We quote for best unmixed seconds, $15.25@$15.50. Thirds are 25@50c. less.

Fertilizing Chemicals.—The demand for fertilizers at this time is very light and little of interest can be reported. Prices are rather weak and we quote: Sulphate of ammonia, gas liquor, $2.50@$2.60; bone, $2.40@$2.50. Dried blood, high grade, $1.85@$1.90; low grade, $1.60@$1.70, per unit. Azotine, $1.85@$1.90. Concentrated phosphate (30% available phosphoric acid), 70@71½c. per unit. Acid phosphate, 13% to 15%, av. P_2O_5, 57c. per unit at seller's works in bulk. Dissolved bone black, 17% to 18%, P_2O_5, 90@92c. per unit. Acidulated fish scrap, $12, and dried scrap with few or no sales, nominally $21 f. o. b. fish factory. Tankage, high grade, $19@$20; low grade, $18@$19. Bone tankage, $21; ground bone, $19@$20. Bone meal, $21@$22.50.

In lots of 50 tons on contracts we quote, per 100 lbs.: Double manure salts, 48-53% (basis of 48%): New York, Boston and Montreal, $1.10; Philadelphia and Norfolk, $1.12½; Charleston, Savannah, Wilmington, N. C., and New Orleans, $1.15. Sulphate of potash, 90%, and minimum, 96% respectively (basis of 90%): New York, Boston and Montreal, $2.08@$2.10; Philadelphia and Norfolk, $2.10¼, Charleston, Savannah, Wilmington, N. C., and New Orleans, $2.13.

Muriate of Potash.—Quotations for lots of 50 tons are as follows: 80-85% and minimum 95%, respectively (basis of 80%): New York, Boston and Montreal, $1.78; Philadelphia and Norfolk, $1.80½; Charleston Savannah, Wilmington, N. C., and New Orleans, $1.83.

Kainit.—Prices for kainit (minimum 23%) are as follows for invoice and actual weights respectively: New York, Boston and Philadelphia, $8.80; Norfolk, $9.15; Charleston, Savannah, Wilmington, N. C., and New Orleans, $9.55.

Nitrate of Soda.—We quote spot, $1.80@$1.85; shipments, $1.75@$1.77, according to position.

Liverpool. Oct. 8.

(Special Correspondence of Joseph P. Brunner & Co.)

There is a good inquiry for heavy chemicals for forward delivery, although spot business is not brisk. Soda ash is in fair demand. The spot range is about as follows: Leblanc ash, 48%, £4@£4 5s.; 58%, £4 5s.@£4 10s.; ammonia ash, 48%, £3 10s.@£3 15s.; 58%, £3 15s.@£4 per ton, all net cash. Bags, 5s. per ton less. There are one or two resale parcels of 58% ammonia ash offering for prompt delivery at a slight reduction on makers' price. Soda crystals receive a moderate amount of attention from buyers, and are firm at £2 7s. 6d.@£2 10s. less 5% for barrels, and 7s. less for bags.

Caustic soda is selling to a fair extent on spot and there is a good inquiry for 1896 delivery. We quote spot range: 60%, £6 5s.@£6 10s.; 70%, £7 5s.@£7 10s.; 74%, £8 5s.@£8 10s.; 76%, £9 7s. 6d.@£9 10s. per ton, net cash.

Bleaching powder in small compass and firm at £7 5s.@£7 10s. per ton, net cash, for hardwood packages, according to destination.

Chlorate of potash is rather more inquired for, both on spot and over next year. For any position 4½d. is nearest value, although a shade less has been accepted by resellers for near positions, while considerable orders at 4¼d. for 1896 delivery have been refused, makers being firm at 4½d.

Bicarb. soda is selling $6 15s. per ton, less 2½% for the finest quality in 1 cwt. kegs, with usual allowances for larger packages.

Sulphate of ammonia is dull, but if anything a shade firmer at £9 3s. 9d.@£9 7s. 6d. per ton, less 2½% for good gray, 24 and 25% in double bags f. o. b. here, according to quality.

Nitrate of soda is quiet, at £8@£8 5s. per ton, less 2½%, for double bags f. o. b. here according to quantity and quality.

Carb. ammonia, lump, 3½d. per lb.; powdered, 3¾d. per lb., less 2½%.

MINING STOCKS.

Complete quotations will be found on pages 386 and 387 of mining stocks listed and dealt in at:

New York.	Aspen, Colo.	St. Louis.
Boston.	Colorado Springs.	Paris, France.
Philadelphia.	Duluth, Minn.	Mexico.
Baltimore.	Helena, Mont.	Shanghai, China.
Pittsburg.	Salt Lake, Utah.	Valparaiso, Chile.
Denver, Colo.	San Francisco.	London, England.

New York, Friday Evening, Oct. 18.

There was a little freer inquiry about certain mining stocks here this week, but nothing in the nature of an incipient boom has developed. The Comstocks were quiet, and the only feature was a more active demand for Sierra Nevada, of which 2,700 shares changed hands at 90c.@$1. The reason for the increased inquiry in this stock is not known. Of Comstock Tunnel stock 3,600 shares were sold at 8@10c. An account of the annual meeting of this company will be found elsewhere in this issue. Consolidated California & Virginia was quiet, only 400 shares being sold at $2.55@$2.65. Other sales were; 100 shares of Hale & Norcross, at $1.50; 250 shares of Ophir, at $1.50; 50 shares of Potasi, at 55c.

Of the California stocks Bodie Consolidated shows a sale of 100 shares at 30c. Brunswick Consolidated declined from 12c. to 10c., with sales of 400 shares. Of Standard Consolidated 500 shares changed hands at $2.50@$2.55.

The Colorado stocks were the most active this week. Argentum-Juniata was traded in at the close to the extent of 1,200 shares at 61@65c. There was a transaction of 200 shares of Chrysolite at 16c., and one of 500 shares of Enterprise at 50c. Lacrosse was stationary at 8c., with sales of an even 1,000 shares. Leadville Consolidated was in good request and 5,300 shares were sold at 13@14c. Little Chief was also inquired for and 1,100 shares were dealt in at 15c. Mollie Gibson returns to the Exchange with sales of 1,400 shares at 55@57c. Of Iron Silver 900 shares changed hands at 25@30c.

Of the new Cripple Creek stocks the following sales are reported: 900 shares of Isabella at 25@26c.; 1,100 shares of Gold & Globe at 17@18c.; 500 shares of Portland at $1.95@$2.00, and 1,500 shares of Union at 23@25c.

Sales of Horn Silver aggregated 400 shares at $2.15@$2.25. There was a transaction of 100 shares of Ontario at $9.75.

Of Moulton 300 shares were sold at 30@35c. A sale of 100 shares of Homestake at $31.50 is reported. The usual transaction in Kingston & Pembroke, 200 shares, took place at the usual price, 30c.

Of late a number of rumors have circulated in the daily press concerning efforts making, or to be made, to start a "boom" in the "Kaffirs" in this country similar to that which is now devastating London and Paris. A number of gentlemen, for the most part unknown to fame, have had interviews with themselves published in the papers of New York, Boston and Chicago, in which they have stated that the "boom" would commence here before long. This week a paragraph appeared to the effect that "a prominent promotor, who has successfully placed large quantities of Kaffir securities in Berlin and Frankfort, is now on his way to this city. He is said to have letters of introduction to several large banking firms, and will endeavor to start an interest in the speculation here and dispose of blocks of South African mining stocks."

That such speculation cannot succeed here is obvious. Our people, that is the rank and file of the smaller investors on whose support all such "booms" must depend, are decidedly averse to investments in foreign countries. They do not have to look to South Africa for gold mines. Moreover, it is the firm belief of almost everybody in this country that a crash in the London "Kaffir boom" is not far distant. The English correspondents of every prominent newspaper and news association have been writing to this effect for the past month. It is also suspected, doubtless with good reason, that London would like to "unload" some of her mining stocks on America. This reversal of a time-honored operation can scarcely succeed. We may unload on London but London can never unload on us.

More as a matter of form than because there was any necessity for such confirmation, a representative of the "Engineering and Mining Journal" interviewed a number of prominent banker and brokers. Without exception they ridiculed the idea that there could be any sort of a Kaffir boom in New York or elsewhere in the United States. It is not impossible that there may be some brokers who will encourage the English promoters to send their stocks to this side of the pond, but they will also inform the promoters that considerable money is required for the attempt, and won't our transatlantic cousins "please remit." It would be a very pretty game, indeed. The Londoners would send over blocks of mining stocks and capital for promoting. The brokers in charge of the boom would in all probability spend the money in "promoting," keep the blocks of stock for "services," and—but by that time the crash in London would have come.

Boston. Oct. 17.

(From Our Special Correspondent.)

The interest in copper stocks continues to center largely in Boston & Montana, and a few of the leading dividend-paying stocks of Lake Superior. The street has been full of rumors of an increased divi-

dend in Boston & Montana, which proved true to-day when the announcement was made of a semi-annual dividend of $4 per share, and an extra of $1 per share, making $7 for the year. The stock has been quite active during the week, and under good buying advanced from $82½ to $85⅝, the latter price being made to-day after the dividend was declared. On later sales a disposition to market stock was noticed, and the price receded to $85, closing here. Butte & Boston was in better demand the last part of the week, and advanced from $17⅝ to $19¼, with later sales at $18½.

Calumet & Hecla sold off to $315, at which price all offered is taken. Quincy was very strong, and touched $144, a gain of $10 from lowest point for the week, subsequently losing $4, and closing at $140. The scrip sold at $75@$7 7 ½. Tamarack was in demand, and after selling at $135 advanced sharply to $140, and closed there. Osceola was fairly steady, selling at $29¾ and $31, closing at $30. Franklin sold early in the week at $19, but lost $1 in later dealings. Kearsarge declined to $19½, but rallied later and sold at $20¾, which was closing price. Atlantic was more active this week, and sold up to $22, a gain of $1½. Tamarack, Jr., on small sales declined to $20½. Tecumseh sold at $3¾ and Wolverine at $7. Centennial declined to $1. Arnold was steady at $2¼, and Allouez sold at $1.

The gold stocks have been rather neglected. Sales of Merced were made at $33@$35; Gold Coin Mining Company at $1.10; Cripple Creek at 75@70c.; Santa Ysabel at $12.

Colorado Springs, Colo.

BY TELEGRAPH.

Messrs. Gardner & Co. wire us the closing quotations for the week ending October 17th as follows:

Name of Company.	11	12	14	15	16	17
Anaconda	.63	.64	64	.61	.64	.65
Argentum-Juniata	.59	.59	.61¾	.61	.61	.62
Consolidated	14¾	.14¾	.14⅝	.15	.15	.15
Isabella	.26½	.26⅝	.26⅝	.26⅝	.23½	.26⅜
Mollie Gibson	.58	.58	.58	.58	.59	.57
Portland	1.90	1.93	1.95	1 98	1.98	1.98
Summit	.24	.24	.25	.25	.25	.25
Union	.23	.23	.23	.23	.23	.23

Salt Lake City, Utah. Oct. 12.

(Special Report of James A. Pollock.)

All things considered the present week has been fairly active in mining stock circles. Many stocks made slight gains, and there were no declines of note. The silver situation is improving and is an encouraging feature in the general condition of mining operations.

Ajax is in demand, and there is but little stock coming out. The favorable outlook from development of the 200 ft. level is producing a decided feeling of confidence among stockholders. Alliance sold during the week at $1.50, and is apparently passing into strong hands, which will necessarily lessen the offerings in the future. Anchor is heavy. Nothing new to report in Bullion Beck. The mine continues to make large shipments, but there is no announcement as yet for this month's dividend. Centennial-Eureka is in demand, but there is some difficulty in bringing buyers and sellers together, consequently trading is limited. It is regarded as a pertinent question as to why Comstock does not ship a few carloads of ore claimed to be in the mine ready to be taken out. Crescent has been inquired into of late to a degree to attract attention. The old speculative favorite may again take its place on the active list. Dalton is being bought up at prevailing prices by a syndicate organized for that purpose.

The interest in Mammoth is increasing; the debt of the company is being rapidly reduced. Mercur continues to be the fancy stock of the list. Shares sold this time last year for $2.50 and in the interim it has paid 75c. per share in dividends. The regular dividend of 12½c. per share, or $25,000 payable October 20th, was declared October 10th. Ontario is weak from want of support. Silver King is not quite as strong as for some weeks back. There is much sentiment controlling the stock and it is possible that it will touch lower figures. Tetro is pushing ahead on its long tunnel. Utah paid a dividend of 2c. per share, or $2,000 October 10th.

San Francisco. Oct 12.

(From our Special Correspondent.)

The market opened quite cheerfully this week and prices were strong for several days. Later there was less disposition to keep up prices, and a general decline followed. At the closing the market was weak and irregular. Nevertheless the amount of business done was larger than for several weeks past.

Some closing quotations are: Consolidated California & Virginia, $2.45@$2.55; Confidence, $2.10@$2.20; Hale & Norcross, $1.65@$1.70; Ophir, $1.50@$1.55; Sierra Nevada, 86@87c.; Challenge, 75@76c.; Chollar, 56@57c.; Yellow Jacket, 44@45c.; Crown Point, 42@44c.; Occidental, 15@16c.; Overman, 15@16c; Alpha, 10@11c.; Justice, 5@6c. Bodie Consolidated was quoted at 30@31c.; Bulwer, 7c.; Mono, 10c.

The following mining companies report having had balances on hand October 1st, 1895, as per sworn statements filed in their offices: Alpha Consolidated, $1,980; Alta, $2,353; Andes, $7,685; Best & Belcher, $7,876; Bullion, $5,091; Belcher, $12,328; Bulwer Consolidated, $430; Bodie Consolidated, $19,523; Caledonia, $1 840; Consolidated California & Virginia unsold bullion valued at $26,136, besides $8,835 in cash; Challenge Consolidated, $1,719; Consolidated New York, $1,106; Chollar, $13.245; Church, $12,604; Consolidated Imperial, $4,668; Crown Point, $7,222; Confidence, $3,539; East Sierra Nevada, $32; Exchequer, $1 092; Gould & Curry, $5.993; Hale & Norcross, $3,864; Julia Consolidated, $997; Justice, $2,398; Kentuck Consolidated, $4,677; Lady Washington, $718; Mexican, $9,863; Mono, $338; Occidental Consolidated, $355; Ophir, $8,912; Overman, $3,506; Potosi, $19,219; Sierra Nevada, $20,537; Silver Hill, $1,136; Scorpion, $226; Syndicate, $1,007; Standard Consolidated, $22,837; Union Consolidated, $14,951; Utah Consolidated, $4,104.

The following mining companies report having had an indebtedness October 1st, 1895: Savage, $2,156; Segregated Belcher, $271; Silver King, $4,092; Summit, $1,169.

A lot of mining stocks sold at sheriff's sale this week for account of creditors of the late John H. Crocker brought a total of about $6,900. The principal lots of stock were 2,200 shares Hale & Norcross, sold at $1.35¼; 250 Consolidated Virginia, sold at $2.40, and 360 Ophir, sold at $1.47.

BY TELEGRAPH.

SAN FRANCISCO, Cal., Oct. 19.—The opening quotations to-day were as follows: Best & Belcher, 83c.; Bodie 26c.; Bulwer, 7c.; Chollar, 45c.; Consolidated California & Virginia, $2.40; Eureka Consolidated, 8c.; Gould & Curry, 42c.; Hale & Norcross, $1.35; Mexican, 64c.; Mono, 8c.; Ophir, $1.45; Savage, 30c.; Sierra Nevada, 92c.; Union Consolidated, 72c.; Yellow Jacket, 38c.

London. Sept. 28.

On the whole there have been few changes to report during the past week in the South African mining market. The recent anxiety with regard to carrying over has been continued, and has exercised a considerable influence in preventing speculative buying. Consequently, though regular purchases have prevented any relapse, there have been no advances of importance, and quotations all round continue unchanged. The one exception is the rise of the ordinary shares of Consolidated Goldfields of South Africa, which have advanced £3 to £9, as compared with £2 this time last year. This rise is caused by the rumors, probably well founded, that a very large amount of cash is in hand, having been earned by the judicious flotation of new gold properties.

In the West Australian section considerable activity is to be noted, and new companies are coming out wholesale. Most of them, I regret to say, are of the very worst description. The buying of West Australians has taken hold on the continent of Europe chiefly on the reports of Herr Schmeisser, the Freiberg expert, who is now visiting these goldfields.

In American mining stocks there is practically nothing to report, except that Montana has paid another dividend of 3d. per share and that the demand for Alaska gold stocks is quite strong.

It is pleasant to note that the results of the recent fire in the Broken Hill Proprietary Company's mines have not been so disastrous to dividends as was expected. Not only is a dividend of 1s. per share to be paid in the middle of October but a bonus of 1s. per share is to be paid at the same time. Thus a monthly dividend that was previously passed has been made up for.

Copper shares generally are in very good form in London, Rio Tinto, Tharsis and Cape Copper all having experienced considerable advances. It is said that Rio Tinto is about to pay a 10% dividend instead of the former 4%. Then again the Central Chile Copper Company, formerly the Panulcillo Company, has arrived at a dividend paying stage after a long period of unsuccess.

The scheme for the amalgamation of the Palmarejo Mining Company and the Mexican Mineral Railway Company, so often referred to in these columns, has at last been adopted, but not before the matter had been submitted to a costly lawsuit. The exact terms of the settlement have not been made public, but it is announced that the total loss of the Palmarejo Company up to date is £169,321, and that £15,000 more will be required to carry on the work. After the many articles and notes on this company which have appeared in your pages all further comment is useless.

Paris. Oct. 6.

(From Our Special Correspondent.)

The opening of the present month was looked forward to with much apprehension and we have had all sorts of predictions of coming disaster and especially of a crash in mining stocks, as a result of the monthly settlement. It is true that there was difficulty for a few days in obtaining loans, owing to a temporary stiffness of the money market, and that a few speculators for the rise who had ventured beyond their means were upset. The settlement passed with very little difficulty, however, and there is not much abatement in the demand for stocks.

Rumor and anticipation, however, had some effect on prices, and there was a general reaction, which carried down nearly all the South African stocks several points. Our home stocks were effected to some extent and nearly all the list was quiet and rather heavy. In a few quarters buying was kept up, but on the whole, the week was rather dull and the plan carefully worked up by the speculators for a fall really failed in its object.

A new company just brought out here is the Gondo Gold Mining Company, which deserves some attention from the fact that the mines are in a place where one hardly looks for gold—the Canton Valais in Switzerland. Gold has been found in the Alps in small quantities, and some placer mines are worked on the Italian side of the mountains. The Gondo Company's shares are 25 fr. par valve, and it is said that they were placed at 37·50 fr.

The Ministry of Commerce has notified the Chambers of Commerce that assistance will be given them in issuing a publication in the Japanese language to push French trade in that country. This follows an example set by the Germans.

There is still an uneasy feeling about the state of affairs in the East, but it does not seriously affect business. The report that a new Chinese loan will be placed in Germany disquiets some. AZOTE.

MEETINGS.

Eureka Consolidated Mining Company, annual meeting at the office, 134 Market street, San Francisco, October 21st.

Mayflower Gravel Mining Company, annual meeting at the office, 330 Pine street, San Francisco, October 21st.

DIVIDENDS.

Boston & Montana Mining Company, semi-annual dividend of $4 per share, with an extra dividend of $1 per share, both payable November 20th to stockholders of record October 24th.

De Lamar Mining Company, Ltd., dividend No. 18, for quarter ending September 30th of 1s. per share, payable October 30th at the London office to shareholders registered on October 8th.

F. E. Belden Mica Mining Company, regular monthly dividend No. 38, payable October 21st.

Homestake Mining Company, dividend No. 207, of 25c. per share ($31,250), payable October 25th at the office of the transfer agents, Messrs. Lounsbery & Company, Mills Building, New York City.

Mercur Mining and Milling Company, dividend of 12½c. per share ($25,000), payable October 20th.

Morning Star Gravel Mining Company, of California, paid this month a dividend of $3 per share.

Utah Mining Company, dividend of 2c. per share ($2,000) paid October 10th.

ASSESSMENTS.

Name of Co.	Loc'n.	No.	Dinq.	Sale.	Amt.
Alpha, Con	Nev.	15	Nov. 5	Nov. 26	.10
Alta	" "	50	Oct. 21	" 11	.10
Brunswick Con.	Cal.	9	Sept. 30	Oct. 30	.02
Bullion	Mont.	...	Nov. 8	Nov. 25	.009
Bunker Hill	S. D.	7	Oct. 10	" 30	.02
Golden Gate	Alaska	1	" 24	" 14	.01¼
Gray Eagle	Cal.	41	" 28	" 22	.05
Hite	"	1	Sept. 28	" 17	.08
Mount. T. Grav.	"	7	Oct. 21	" 11	.02
Nevada Queen	Nev.	9	" 16	" 12	.05
Occidental, Con.	"	20	Nov. 4	" 25	.10
Rainbow	S. D.	8	Oct. 14	Oct. 30	.009¾
Savage	Nev.	87	" 23	Nov. 12	.20
Seg. Belcher	"	16	" 15	" 4	.10
South Eureka	Cal.	22	Nov. 4	Dec. 2	.02

DIVIDENDS PAID BY MINING COMPANIES, SEPTEMBER AND YEAR 1895.

NAME OF COMPANY.	Location.	Paid in September	Paid in since Jan. 1.
Am. Dev. & Mg. Co.	Mont.	.....	$24,340
Alaska-Mexican	Alaska	.....	25.500
Alaska Treadwell	"	.....	150,000
Amethyst	Colo.	.....	36,000
Argentum-Juniata	"	.....	78.000
Bald Butte	Mont.	.....	12.500
Bangkok-Cora Bell	Colo.	3,000	48,000
Belden, F. E. Mica	N. H.	4,000	54,000
Boston & Montana	Mont.	.....	300,000
Bullion-Beck & Champion	Utah.	50,000	325.000
Calumet & Hecla	Mich.	.....	1,000,000
Centennial-Eureka	Utah.	60,000	330,000
Champion	Cal.	3,400	27,200
Con. Cal & Va	Nev.	.....	162,000
Copper Queen Con.	Ariz.	.....	150,000
Coptis	Nev.	.....	1,000
De Lamar	Idaho.	.....	444,000
Elkhorn	Mont.	.....	50,000
Elkton	Colo.	.....	7,500
Forepaugh	"	.....	16,000
Gold & Globe	"	.....	11.250
Golden Fleece	"	.....	90,000
Hecla Con.	Mont.	.....	115,000
Homestake	So. Dak.	31,250	250,000
Hope of St. Louis	Mont.	.....	10,000
Horn Silver	Utah	.....	100.000
Iron Mountain	Mont.	.....	90,000
Jackson	Cal.	.....	2,000
Kennedy	"	.....	184,000
Mayflower Gravel	"	.....	48,000
Mercur	Utah	25,000	175,000
Mollie Gibson	Colo.	.....	50,000
Montana, Ltd	Mont.	.....	82.500
Mont. Ore Purchasing Co.	"	40,000	160,000
Morning Star Drift	Cal.	9,000	144,000
Moulton	Mont.	.....	30,000
Mt. Rosa	Colo.	.....	5,000
Napa Con (Quicksilver)	Cal	.....	70,000
Nugget	Colo.	.....	5,000
Osceola Con	Mich.	.....	100,000
Portland	Colo.	60,000	180,000
Quincy	Mich.	.....	600,000
Silver King	Utah.	37,500	150,000
Smuggler	Colo	.....	350,000
Standard	Cal	.....	20,000
Tamarack	Mich.	.....	200,000
Union	Colo.	.....	12,500
Utah	Utah.	2,000	13,000
Victor	Colo.	.....	180,000
Victor L. & M. Co.	"	.....	6,000
War Eagle	B. C.	.....	132,500
W. Y. O. D.	Cal.	.....	24,000
Total		$325,750	$5,810,790

STOCK QUOTATIONS.

NEW YORK.*

Name of Company.	Location.	Par val.	Oct. 12. H.	Oct. 12. L.	Oct. 14. H.	Oct. 14. L.	Oct. 15. H.	Oct. 15. L.	Oct. 16. H.	Oct. 16. L.	Oct. 17. H.	Oct. 17. L.	Oct. 18. H.	Oct. 18. L.	Sales
Argentum Jun..	Colo..	5											.65	.61	1,250
American Flag..	"	1													
Bodie	Cal....	100				.30									100
Best & Belcher..	"	100													
Brunswick	"	2			.12		.11						.10		400
Bulwer	"	100													
Chollar	Nev.	100													
Chrysolite	Colo...	50													300
Comstock T.	Nev...	100	.08		.10	.09									3,600
do. Bonds	"														
Con. Cal. & Va.	"	100	2.65	2.55											400
Crown Point	"	100													
Enterprise	Colo..	5	.50												500
Gold & Globe	"	1											.18	.17	900
Gould & Curry	Nev....	100													
Hale & Norcross	"	100	1.50		1.00										100
Homestake	S. Dak	100			81.50										100
Horn Silver	Utah..	25					2.25	2.15			2.25				400
Iron Silver	Colo..	20	.30		.27										300
Isabella	"	1											.26	.25	900
K. & Pembroke	Ont....	10	.30								.30				300
Lacrosse	Colo...	10									.08				1,000
Leadville Con.	"	19	.14		.14		.14		.13				.14	.13	5,300
Little Chief	"	50	.15		.15		.15								1,100
Mexican	Nev ..	100													
Mollie Gibson..	Colo..	5											.57	.55	1,400
Moulton											.35	.30			200
Ontario	Utah..	100			9.25										100
Ophir	Nev..	100					1.50								250
Phœnix Con...	Ariz..	1													
Portland	Colo..	1											2.00	1.95	500
Potosi	Nev..	100											.55		50
Savage	"	100													
Shoshone	Idaho	1													
Sierra Nevada..	"	100	1.00		1.00								.95	.90	2,700
Standard	Cal..	100					2.50						2.55	2.55	500
Union	Colo..	1											.25	.23	1,500
Victor	"	5													
Yellow Jacket	Nev..	100													

*Official quotations N. Y Stock and Con. Stock & Petroleum Exchanges. Total sales, 34 100.

BOSTON, MASS.*

Name of Company.	Location.	Par val.	Oct. 11. H.	Oct. 11. L.	Oct. 12. H.	Oct. 12. L.	Oct. 14. H.	Oct. 14. L.	Oct. 15. H.	Oct. 15. L.	Oct. 16. H.	Oct. 16. L.	Oct. 17. H.	Oct. 17. L.	Sales.
Allouez	Mich.	25											1.00		100
Arnold	"	25	2 75		2 75						2.50				215
Atlantic	"	25	20.50				21.38	21.50			22 00				400
Bonanza	"	10													
Bost. & C. C	Colo.	1	.75				.70		.70						400
Bost. & Mont.	Mont.	25	83.50	82.50	83.63	82 75	83.50	83.00	85.00	84.00	86.50	84.00	85.38	84.75	18,550
Butte & Bost	Mont.	25	17.75		17.75	17.63			18.00	17.63	19.25	18.13	19.00	18.25	5,904
Cal. & Hecla	Mich.	25	316				315								62
Cataipa (Silver)	Colo.	10													
Centennial	Mich.	25					1.11	1.00	1.00		1 00		1.00		1,005
Copper Falls	Mich.	25													
Dominion Coal.	N. S.	100	15.50	15.25	15.50		15.25	15.00					15.00		880
do. pref.	"	100	94.00				95.00		95 00				95.25		47
Franklin	Mich.	25	19.00	18.75	19.00						18.00				205
Illinois Steel	Ill.	100	80 00		81.00		80 25	79 00	81.00	80.25	81.50		80.00	79.75	1,055
Gold Coin	Utah.	1			1.10		1.05		1.10				1.10		2,100
Kearsarge	Mich.	25	21.00		19.5		19.50		20.00	19.50			20.38	20.00	1,095
Lake Sup. Iron.	"	25													
Merced	Cal.	15			33.00		35.00				35.00		35 00		100
Minnesota (Ir.)	Minn.	100													
Napa	Cal..	7													
National	Mich.	25													
Osceola	"	25					31.00	30.00	30.5	29.75	31.50	30.00			1,479
Pontiac	"	25													
Quincy	"	25	136				135½	135	135	134	134	133	141	140	265
do. scrip	"										15.00		15.50	15.00	100
Santa Rosa	Colo.	10													
San. Ysabel (G.)	Cal.	5											12.00		10
Tamarack	Mich	25	138		138	135	135		147	135	137		140	137	370
do. Jr	"	25			24.38				27.00				30.50		105
Tecumseh	"										8.75				20
Westingh E.&M	Pa.	50			55.50	55.25	55.25				56.00				210
do. pref							55.25		55.25				55.25		142
Wolverine	Mich.	25			7.0										50

* Official quotations Boston Stock Exchange. Total sales, 35,298.

INDUSTRIAL COAL A ND COAL RAILROAD STOCKS.*

Name of Company.	Par value.	Oct. 12. H.	Oct. 12. L.	Oct 14. H.	Oct 14. L.	Oct. 15. H.	Oct. 15. L.	Oct. 16. H.	Oct. 16. L.	Oct. 17. H	Oct. 17. L.	Oct. 18. H.	Oct. 18. L.	Sales
Balt. & Ohio.	100	61		62		61¾	61	62		62¾				1,080
Ches. & Ohio	100	19⅝	19¼	19⅝		19⅝	19⅝	19⅝	19⅝	19⅝				1,720
Col.C. & I. Dev	100	2⅛												100
Col. Fuel & I.	100	37¼	36¾	37⅝	37⅜	38	37⅝	37½	37¼	37¾		36¾	36	2,651
Col.,H.V.&Tol	100													
Col. & H.Coal	100													
Con. Coal	100						33							200
Del. & Hud. C	100	133½		133		133	133¾	132¾	132¾					1,282
Del., L. & W..	50	161		160	160	160	163	163¾						1,430
General Elec.	100	38	37¾	38	37⅝	38¼	38⅝	37⅞	37¾		37¾	37½		5,156
Illinois Steel.	100			80	79½	81½	81¼	80½	80¼	80¾	79½	80	79	2,859
Lake Erie&W	100					24						23¾		1,200
do. pref	100	78¼		78¼		78¼		78¼	77¼	77½				1,435
Nat'l Lead	100					35½	34½					34½		420
do. pref	100	92	91½	92½		91		91		91¾		91		394
N. J. Central	100			113	112¾					112		112		640
N. Y.,L.E.&W	100			12½		12¼	12	12	11¾					790
do. pref	100													
N.Y.,Ont.&W.	100	18½		18¾	18⅝	18⅝	18⅜	18⅜	18¼			18¾	18¼	3,174
N.Y.,Susq.&W	100					12¾		12¾				12¾		505
do. pref	100			36	35¾	36⅜	36¼	36¼	36	37¾				1,414
Norfolk & W.	50	4						3¾						243
do. pref	50							15½	15					252
Phila. & Read.	50	21½	21	21¼	20¾	21¾	20¾	21¼	20¾	21	20⅝	20¾	20¾	38,060
Tenn. C. & I.	100	43¼	42¾	43¼	42⅝	43⅝	42⅝	43¾	42¼	42¾	41⅝	42	41	35,530
Wells Fargo..	100			105			107							15
Wheel. & L. E.	100	15¾	15¼	15¾	15	15	15⅜	15¼	15	15⅜	15	15	14⅞	10,090
do. pref	100			4-1½			48¾			48⅝	47¾			810

* Official quotations N. Y. Stock Exchange. Total shares sold, 110,311.

ASPEN, COLO.* Week ending Oct. 11

Name of Company.	Location.	Par value.	Bid.	Asked.	Sales.	Price.
Alta Argent	Aspen, Colo.	$1.00	$0.07	$0.07½	18,250	$0.07½
Argentum-Juniata	" "	2 00	.60	.62½	23,000	.62½
Aspen Contact	" "	5.00	.22	.25	250	.25
Aspen Deep Mining	" "	1.00	.07	.08	14,000	.08
Best Friend	" "	1.00	.04	.05	2,000	.05
Bi-Metallic	" "	1.00	.02	.02½	400	.02½
Bushwhacker	" "	1.00	.04	.04½	2,500	.04½
Caverhill Consolidated	" "	1.00	.30	.30	33,111	.30
Della S	" "	5.00	.60	.62½	8,500	.62½
Gold Valley Placer	Routt Co.,	1.00				
Mineral Farm Consolidated	Aspen,	1.00	.07	.07½	56,000	.07½
Mollie Gibson	"	5.00	.47	.50	1,250	.50
Old Colony Gold	Taylor River,	1.00	2.00	2.00	1,000	2.00
Sheep Mt. T. & M	Crystal,	1.00				
Smuggler	Aspen,	1.00	1.05	1.40	200	1 40

* Special Report of Arkell, MacMillan & Stewart. Total sales, 160,581.

ST. LOUIS, MO., STOCKS, Week ending Oct. 15.

Name of Company.	Location of Works.	Company's Office.	Par value.	Bid.	Asked.	Last Dividend.
Central Lead Co	Flat River, Mo...	St. Louis, Mo	$100	$50	$60	
Con. Coal Co	" "	" "	100	20½	21¾	June, '95, 1 p. c.
Doe Run Lead Co.	Doe Run, Mo....	" "	100	70	80	June, '92, 2 "
Kan. & Tex. Coal.			100	64	66	
St.Joseph Lead Co	Bonne Terre, Mo.	New York	10	9⅝	10¾	July, '95 1½, p. c.

COLORADO SPRINGS COLO.*

Name of Company.	Par val	Oct. 8. H.	Oct. 8. L.	Oct. 9. H.	Oct. 9. L.	Oct. 10. H.	Oct. 10. L.	Oct 11. H.	Oct 11. L.	Oct. 12. H.	Oct. 12. L.	Oct. 14 H.	Oct. 14 L.	Sales.
Alamo	$1	.04⅝	.05	.04⅝	.05	.04⅝	.04⅜	.04⅝	.05	.04½	.15			22,500
Anaconda	5	.62½	.64	.65	.67½	.65¼	.63⅝	.62	.63¾	.63½	.64	.65	.65	11,895
Argentum J	2	.60	.61½	.53⅜	.54	.59	.60	.59½	.60	60	.60⅜	.65	.60½	38,750
Bob Lee	1	.01¾	.01⅝	.01¾	.01⅝	.01½	.01¼	.01¼	.01⅜	.01¾	.01⅝	.01¾	.01⅝	37,100
C. O. D	1	.04		.04		.04¾	.05⅜	.04	.16			.05¼	.05½	1,000
Cripple C.C.	1	.15½	.15¾	.14⅞	.15	.14⅜	.14⅞	.15	.14½	.14	.14¾	.14¾	.14¾	44,150
Cr. & C. C.	1	.03⅝	.03¾	.03¾	.03⅝	.03⅝	.03⅝	.03¾		.03¾		.03¾	.03¾	15,500
Cr.Creek Ex	1	.15	.20	.15	.20		.17⅜		.17¾	.16¾	.17¾	.17	.17	71,000
Favorite	1	.08	.08½	.07¾	.09	.08¾	.08	.08¾	.07¾	.07¾	.08¾	.08	.08	19,750
Franklin	1	.01	.01¾	.01½	.01¾	.01	.01¼	.01¼	.01¾	.01	.01¾			4,000
Fanny R	1	.08¼	.09	.07¾	.09¾	.08¾	.09	.08	.08¾	.08¾	.09¾	.09¾	.09¾	10 000
Gold & Gl	1	.15¾	.15¾	.15¾	.15	.15¾	.15¾		.16	.15¾	16			12,000
Ida May	1											.15	.15	5,000
Isabella	1	.27	.27¾	.26¾	.27	.26¾	.27¼	.28¾	.26½	.26¾	.26¼	.26¾	.25¾	24,900
" stamp		.25¾	.25¾	.25¾	.26	.25¾		.25	.26	.25				
Mollie G	5	.39	.41	.39		.43¾	.45½	.56	.57¾	.56	.57¾	.56	.56	5,782
Mt. Rosa	1	.12	.12¾	.11¾	.12	.11¾	.11¾	.11	.11¾	.10¾	.10¾	.11¾	.11	12,100
Pharmacist	1	.04¾	.14¾	.04¾	.04¾	.04¾	.04¾	.04	.14¾	.04¾	.14¾	.04¾	.04¾	5,000
Portland	1		2.00	1.97	1.98	1.93	1.96	1.89	1.90	1.91	1.93	1.90	1.90	12,750
Rebecca	1	5.50	6.50	5 45	6.50	5.40	6.50	2.12		5.00	6 50			
Specimen	1	.17	.17¾	.17	.17¾	.17¾	.18	.17¾	.18	.17¾	.18	.17¾	.17	16,700
Summit	1	.25	.26¾			.22½	.25	.20	.25	.20	.25	.26	.25	9,700
Union	1	.23¾	.25	.21¾	.23	.21¾	.24	.22¾	.23¼	.22¾	.24			7,400
Work	1	.06¾	.06¾	.06¼	.06¾	.06¼	.06¾	.06¼	.06¾	.06¾	.06¾	.06¼	.06¾	17,800

* Official quotations Colorado Springs Mining Stock Association ‡ All the companies are located in Colorado. Sales: Listed, 403,077; unlisted, 517,716; value, listed, $94,153.84.

COLORADO SPRINGS, COLO.*

Name of Company.‡	Par val	Oct. 7. B.	Oct. 7. A.	Oct. 8. B.	Oct. 8. A.	Oct. 9. B.	Oct. 9. A.	Oct. 10. B.	Oct. 10. A.	Oct. 11. B.	Oct. 11. A.	Oct. 12. B.	Oct. 12. A.	Sales.
Anaconda	$5	.62	.62½	63½	.65	.61	.65	.63	.68	.63½	.67	63	.64	4,753
Anchoria-L	1			1.00		1.25		1.56	1.66	1.41	1.65			1,000
Aola	1	.02¾	.03⅜	.02¾	.03⅜	.02⅜	.02⅝	.02½	.12½	.02¾	.03⅜	.02¾	.02¾	65,500
Arg'ntum J	2	.64	.65	.60	.62	.57½	.58½	.58½	.59	.60	.61	.61¾	.61¾	11,700
Bankers	1	.08¾	.08¼	.09¾	.10	.09¾	.10	.10½	.09¾	.10	.09¾	.10¾	.10¾	71,500
Ben Hur	1	.05¾	.06	.06¼	.06¾	.06	.06¼	.06	.16¼	.06¼	.16¼	.06	.06¾	38,500
Blue Bell	1	.06¾	.07¾		.07½	.06	.07½	.06	.07½	.07	.07¾	.07½	.08	
Bob Lee	1	.01	.01¾	.011	.01¾	.013	.013¾	.01175	.012	.0115	.015	.0115	.012	23,500
Buckthorn	1	.03½	.04¼	.03¾	.04	.03¾	.04½	.03¾	.03¾	.03¾	.03¾	.03¾	.03¾	2,000
Calumet	1							.10	.10½		.11	.01	.11	8,500
C. K. & N	1	.0075	.00975	.0075	.0087	.008	.0085	.0075	.00825	.0075	.0085	.0075	.008	1,700
Colo.C.& M.	1	.02¼	.02¾	.02¾	.02¾	.02¾	.03	.02¾	.03	.02¾	.03	.02¾	.02875	91,975
Columbine	1	.02½	.02¾	.02¾	.02½	.02¾	.02¾	.03¾	.03¾	.02¾	.02¾	.02¾	.02¾	4,500
Copper M	1	.01¾	.02¾	.02¼	.02	.02¾	.02¾	.02¾	.02¾	.02¼	.02¾	.02¾	.02¾	46,000
C. C. Con.	1	.14	.14¾	.15¾	.15¾	.15¾	.15¾	.14¾	.14¾	.15¾		.14¾	.14¾	85,000
Cr. & C. C.	1	.03¾	.03¾	.03¾				.03¾	.03¾	.03¾	.03¾	.03¾	.03¾	5,000
Des Moines	1		.03				.02¾	.02¾		.0075	.03	.02¾	.02¾	
Enterprise	1	.09	.09¼	.09¾	.09		.10¾		.10¾	.10¾	.01035	.01 75	2,350
Eureka	1	.007	.00775	.007	.008	.007	.0085	.007	.0085	.007	.0085	.0 75	.0085	
Fanny B	1	.004	.005	.004	.00575	.0045	.005	.00425						
Franklin	1	.0 975	.01	.001	.011			.01025	.012	.0105	.01075	.01125	.011	5,000
Free Coin	1	.01			.03¾	.03¾	.07¾							
Garfield-Gr	1	.03¼	.03⅝	.03½	.03¾	.03¾	.03¾	.03¼	.03¾	.03⅜	.03¾	.03½	.03¾	19,300
Gold & Gl	1	.15¼	.15⅜	.15¾	.15⅞	.15⅜	.15⅜	.15⅜	.16	.15		.14¾	.16⅜	20,500
Gold Eagle	1	.01¼	.013	.0125	.013	.0125	.01375	.01225	.013	.012	.013	.012	.013	8,000
Golden Age	1	.0¾	.01¾	.013¾	.013¾	.014¾	.013¾	.014¾	.013¾	.013¾	.13¾	.014¾	.014¾	11,000
Gold King	1	.65	.73	.66	.73¾	.65	.72¾	.62	.74	.65	.70	64	.72	100
Gold Res	1													
Gold Stand	1	.03¼	.14	.03¼	.09½	.08¾	.09½	.09¼	.10	.08¾	.09	.09½	.09¾	105,000
Goldstone	1	.008	.0085	.00825	.00875		.009	.009	.1095	.00875	.009	.0085	.00875	3,750
Gould	1	.07¾	.18¾	.08	.08¾	.08¼	.08¾	.08¾	.08¾	.08¼	.08¾	.08¼	.08¾	7,250
Gran. Hill	1		.02¾	.01¾		.01¾	.01	.0 9¾	.02	.01¾	.2		.02	
Isabella	1	.24¾	.26¾	.27	.27¼	.26¾	.27¼	.26¾	.27	.26¾	.27	.26¾	.26¾	12,700
Jack Pot	1		.0	.05	.05¾	.05	.05¾	.05¾	.05¾	.05¾	.05¾	.05¼	.05¾	20,500
Keystone	1	.04¾	.5	.04¾	.05	.04¾	.05	.04¾	.05	.04¾	.0485	.04¾	.05	12,000
Ladessa	1	.01	.01¾	.01¾	.01¾	.013	.01¾	.01¾	.013¾	.01¾	.018	.01¾	.013¾	12,000
Maggie R	1	.0055	.005	.00515	.006	.005	.006	.0 575		.0 6	.0065	.005	.0065	4,000
Magua Ch	1	.02¾	.02¾	.02¾	.02¾	.02¼	.02¾	.02¾	.02¾	.02¼	.02¾	.02¾	.02¼	43,000
Matt Fr'ce	1													
Mollie G	5	.45	.50	.40	.40¾	.39		.42	.45	.56	.57¾	.55	.61	1,550
Mt. Rosa	1	.12	.12¾	.11¾	.11¾		.13	.11¾	.11¾	.10¾	.11¾	.10¾	.11¾	17,500
Mutual	1	.05	.05¾	.05	.05¾	.05¼	.05¾	.05¾	.0 3¾	.05¾	.05¼	.05¼	.05¾	4,500
Nugget	1	.11	.11¾	.11¾	.11¾	.11¾	.11¾	.11¾	.11¾	.11¾	.12	.11	.11	19,000
Ophir	1		.06	.04¾	.06	.04¾	.05	.04¾	.05	.04¾	.05¼	.04¾	.05¼	4,900
Ore Gr'nde	1											.01	.00225	
OrphanBell	1	.08	.09¾	.09	.09¾	.09¼	.09¾	.08¼	.09¾	.08¾	.09	.08¾	.09¾	8,000
Pharmacist	1	.04¼	.14¾	.04	.04¾	.04¼	.04¾	.04¼	.14¾	.04¼	.04¾	.04¼	.04¾	11,000
Portland	1	1 97	1.98¾	1 97	1.93	1.93¾	1.98	1 92	1.95	1.81	1.85	1.85	1.90	21,980
Princes- E.	1	.00475	.0053	.00475	.00525	.0045	.0055	.00475	.005	.0045	.005	.00475	.005	26,900
Sacram'nto	1	.04	.04¾	.04¼	.04½	.04¾	.04¾	.05	.05¼	.05¼	.05½	.05	.05½	17,000
Santa Fe	1		.01	.007	.01		.006	.0085	.006	.0 9	.007	.01		
Sliv. State	1	.01¾	.02	.01¾	.02¼	.01¾	.02	.02	.02¼	.02	.02¼	.01¾	.02¼	14,000
Star of W	1	.01¾	.01¾	.01¾	.01¾	.01¾	.01¾	.01¾	.01¾	.01¾	.01¾	.01¾	.01¾	42,500
Summit	1		.24	.24¼	.25	.24¼	.25	.23¾	.25	.23¾	.25	.23¾	.25	1,750
Union	1	.23¼	.23¾	.23½	.23¾	.22¾	.23	.22¾	.22¾	.23	.23¼	.23½	.23½	19,000
UnionLeas.	1	.27	.35	.27	.31			.30		.30	35	.33		
Union Pac.	1													
Virginia M.	1	.02¼	.02½	.02¾	.03¾	.02½	.03¾	.02¾	.02½	.02¾	.03	.02¾	.03	31,000
Wh. of For.	1	.0 525	.00575	.0075	.006	.0055	.00575	.0 55	.0055	.0 575	.006	.0 575	.006	90,000
Work	1		.06¾	.06	.06¼	.06¼	.06¾	.06¼	.16¾	.06	.06¼	.06	.06¼	
World	1			.02	.02¾	.01¾	.02¾	.01¾	.02¾	.01½	.02¾			3,000

*Official quotations Colo. Spr'gs B'rd of Trade & Mg. Exch. ‡All the companies are located in Colo. Sales: listed, 1,260,011; miscellaneous, 294,365; total cash value, $ 31,850.38.

SAN FRANCISCO, CAL.*

Name of Company.	Location.	Par. value.	Oct. 12.	Oct. 14.	Oct. 15.	Oct. 16.	Oct. 17.	Oct. 18.
Alta	Nev.	100	.10	.09	.08	.07		
Belcher	"	100	.55	.55	.48	.48	.44	
Best & Belcher	"	100	.90	.89	.87	.85	.85	.83
Bodie Consolidated	Cal.	100	.35	.32	.31	.27	.25	.26
Bulwer	"	100		.06	.06	.06	.06	.07
Chollar	Nev.	100	.56	.51	.48		.42	.45
Con. California & Virginia	"	100	2.50	2.50	2.45	2.45	2.40	2.45
Crown Point	"	100	.42	.43	.39	.38	.36	
Gould & Curry	"	100	.49	.48	.45	.44	.40	.42
Hale & Norcross	"	100	1.65	1.40	1.35	1.35	1.25	1.35
Mexican	"	100	.68	.69	.67	.65	.62	.64
Mono	Cal.	100		11	.05	.06		.08
Ophir	Nev.	100	1.50	1.51	1.45	1.45	1.40	1.45
Potosi	"	100	.68	.63	.54	.58	.55	
Savage	"	100	.78	.80	.54	.52	.30	.30
Sierra Nevada	"	100	.75	.92	.89	.91	.91	.92
Union Consolidated	"	100	.64	.72	.68	.69	.71	.72
Utah	"	100	.08	.09	.08	.08	.07	
Yellow Jacket	"	100	.45	.45	.40	.40	.38	.38

* Official quotations San Francisco Stock Exchange.

PITTSBURG, PA.* Week ending Oct. 17.

Name of Company.	Location.	Par value.	Bid.	Ask.	Selling price.
Coal:					
Mansfield C.&C	Pa.	50			
N.Y.&C.Gas Co	"	50		40	
Mining:					
Enterprise	Colo.	5	36		
Lustre	Mex.	10	11	11¾	
Silverton	Colo.	10			
Miscellaneous					
Carborum. Mfg	Pa.	100			
Natural Gas:					
Allegheny	Pa.	100	49¾	50¾	50¾
Chartiers Val	"	100	7¾	8	
Manufacturers	"	100	41½		
People's N.Gas	"	50	12¾		
People's Pip'ge	"	25	12¾		
Pennsylvan a	"	50	3¾	5	4
Philadelphia	"	50	14¾	15	15
Wheeling	W. V.	50	17¼	18	17¾

* Official quotations Pittsburg Stock Exchange.

BALTIMORE, MD.* Week ending Oct. 17.

Name of Company.	Location.	Par value.	Bid.	Ask.
Balt. Mg & Sm. Co	N. C...	5		
Conrad Hill	"	10		
Diamond Tun		10	32½	
George's Cr'k Coal	Md.	100	106	110
Howard C'l & Coke	Md.	5		
Lake Chrome		5		
Ore Knob		10		
Silver Valley	N. C...	5		20

* Official quotations Baltimore Stock Exchange.

STOCK QUOTATIONS.

DENVER, COLO.*

Week ending Oct. 12.

Name of Company.	Location.	Par value.	Opening	Highest.	Lowest.	Closing. Bid.	Closing. Ask.	Sales.
Addie C	Cripple Creek, Colo.	$1	.009½	.012	.0092	0102	.012	6,500
Alamo	" " "	1	.042	05	.042	.032	05	24,000
Amity	" " "	1	.007	.0952	.0052	.032	.06	67,000
Anaconda	" " "	5	.60	.70	.60	.....	.....	3,377
Aola	" " "	1	.017½	.02¾	.017½	.028	022	.....
Argentum Juniata	Aspen, "	1	.65	.65	.58	.61	.61	11,050
Bangkok	Leadville, "	1	.10	.12½	.10	.12	.12½	10,750
Bankers	Cripple Creek, "	1	.08	.10½	.08	.10	.10¼	13,600
Big Six	" " "	1	.05	.07	.04	.04	.064	.....
Bob Lee	" " "	1	.....	.....	.....	.....	.....	.....
Boston-Idaho	Leadville, "	1	.252	.312	.26	.28	.312	400
Colo. City & Manitou	" " "	1	.02¾	.034	.02¾	.03	.034	33,000
C. O. D	Cripple Creek, "	1	.....	.....	.....	.....	.....	.....
Creed & Cripple Creek	" " "	1	.032	.04	.032	032	.03¾	34,000
Cripple Creek Con	" " "	1	.24	.1 3/8	.122	.14	.14¾	1,500
Eclipse	" " "	1	.45	.07	.042	.07	.07	222,500
Fanny Rawlings	Leadville, "	1	.....	.....	.....	.....	.....	.....
Forepaugh	Cripple Creek, "	1	.10	.40	.10	.21	.40	.....
Garfield Grouse	Leadville, "	1	.032	.03¾	.034	.034	.03¾	29,320
Gold & Globe	Cripple Creek, "	1	.14	.16	.13	.158	.142	.....
Gold Standard	" " "	1	.092	.102	.49	.094	.09¾	23,400
Isabella	" " "	1	.22	.28	.22	.252	.27	2,100
Jack Pot	" " "	1	.042	.062	.04	052	.062	75,000
Justice	" " "	1	.034	.08	.034	.072	.08	26,500
Keystone	" " "	1	.04	.05¾	.04	.044	.05	3,000
Ladessa	" " "	1	.06	02	.01	.014	.01¾	.....
Mollie Gibson	Aspen, "	5	.462	.58	.40	.56	.58	1,600
Mt. Rosa	Cripple Creek, "	1	.1	.12	.1	.11	.11¾	6,400
New Zealand	Leadville, "	1	.03¾	.052	.03¾	.042	.052	21,000
Nugget	Cripple Creek, "	1	.10	.122	.10	.11	.122	.....
Pharmacist	" " "	1	.044	.05	.04	.044	.042	.....
Portland	" " "	1	1.76	2.00	1.76	1.86	1.92	30
Reno	" " "	1	.02	.05	.02	.04	.05	21,816
Smuggler	Aspen, "	1	.80	1.30	.70	.86	1.20	.....
Specimen	Cripple Creek, "	1	.....	.....	.....	.....	.....	.....
Star of the West	" " "	1	.01¾	.03	.01¾	.012	.014	18,000
Summit	" " "	1	.....	.....	.....	.....	.....	.....
Union Gold	" " "	1	.02	.242	.202	.22	.232	.....
Union Leasing	" " "	1	.31	.35	.28	.31	.332	1,700
Wheel of Fortune	" " "	1	.0052	.004	.0052	006	0064	40,000
Work	" " "	1	.052	.062	.052	.06	.064	.....

*Official quotations Colo. Mining Stock Exch'ge. Total sales: listed, 697,413; unlisted, 143,500.

PHILADELPHIA, PA.*

Name of Company.	L'cation.	Par Val'e	Oct. 10. B.	Oct. 10. A.	Oct. 11. B.	Oct. 11. A.	Oct. 12. B.	Oct. 12. A.	Oct. 14. B.	Oct. 14. A.	Oct 15. B.	Oct 15. A.	Oct. 16. B.	Oct. 16. A.	Sales
Bethlehem Ir.	Pa.	.....	80	.....	81	.....	80	....	80	.....	80	.....	80	.....	.....
Bloom. C. & C.	"	50	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....
Cambria Iron	"	50	.....	.....	57	57¾	58¾	....	56¾	....	.....	.....	.....	.....	525
" Receipts	"	50	54½	....	56⅝	....	58⅝	....	.....	.....	55	54½	.....	.....	700
Cent. Coal & C.	"	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
C., O. & Gif. Vt. Tst Ctfs.	L.T.	50	15⅜	15⅝	15¾	15⅝	15⅝	....	15⅝	....	15¾	15⅝	15⅝	15½	1,842
Fl. Top C.L.As.	W.V.	100	16	.....	16	....	16	....	16	....	16	.....	.....	.....	.....
" pref.	"	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunt & Br. Top.	Pa.	50	.....	.....	31	.....	.....	.....	.....	.....	.....	.....	31	.....	30
" pref.	"	50	.....	.....	.....	.....	.....	.....	53½	.....	53¾	.....	53¾	.....	62
Hutchinson C.	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" pref.	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lehigh C. & N.	"	50	48¼	48¾	48¼	47¾	48⅛	48¾	48⅜	48	48¾	48	48⅛	48	379
Lehigh Valley	"	50	41¾	41¾	41¾	41⅝	42	41⅝	42	41⅝	42	41¾	42	41¾	1,016
Little Sch'ykill	"	50	64	.....	64	.....	64	.....	64	.....	64	.....	64½	.....	50
Penn. Gas Coal	"	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penna. R. R.	"	50	55⅞	55⅝	56	55⅞	55⅝	55⅝	56	55⅛	56	55⅞	56	55⅝	1,573
Penna. Salt	"	50	98	.....	9	.....	98	....	98	.....	100	.....	.....	.....	.....
Pa. Steel pfd. rc.	"	.....	.....	.....	195	190	.....	.....	195	190	.....	.....	.....	.....	10
" temp.	"	.....	51¾	52	53	52	52	.....	53¾	51¾	52	51	77½	51¾	16,794
" pfd.	"	.....	.....	.....	87½	85	.....	.....	.....	.....	87¾	82½	.....	.....	.....
Westmorel'd C	"	50	.....	.....	50½	.....	50	.....	.....	.....	.....	.....	50	.....	10
Wyo. Valley C.	"	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

* Official quotations Philadelphia Stock Exchange. Total sales 22,998.

SALT LAKE CITY, UTAH.*

Week ending Oct. 12

Name of Company.†	Par value.	Bid.	Asked.	Actual selling price.	Name of Company.	Par value.	Bid.	Asked.	Actual selling price.
Ajax	$10	$0.32½	$0.50	$0.37½	Daly	$20	$6.25	$7.00	$6 75
Alliance	1	1.35	1.60	1.50	Daly West	20	6.25	6.75	6.50
Amer. Nat. Gas	10	.05	.15	.12½	Horn Silver	25	1.85	2.15	2.10
Anchor	20	3.10	3.35	3.25	Mammoth	25	1.12½	1.35	1.27½
Bogan	1	.15	.40	.25	Mercur	25	4.05	5 50	5.05
Bullion Beck & C.	10	7.50	9.00	8.75	Morgan	125	.50	.75	.65
Cane Springs	5	.....	.85	.....	Ontario	100	8.00	10.00	10.00
Centen'l Eureka	50	55.00	62.00	60.00	Silver King	20	14.25	14.75	14.50
Cleveland Con	1	.....	.50	.....	Tetro	1	.....	.20	.10
Comstock	25	.50	1.00	.75	Utah	1	.90	1.00	1.00
Dalton	5	.05	.07	.06	Utah Lime	10	3.50	4.25	4.00

* Special Report of James A. Pollock. † All the companies are located in Utah.

HELENA MONT.*

Week ending Sept. 27.

Name of Company.	Location.	Company's office	Par value.	Bid.	Asked	Shares sold.	Price	Date.
Am. Dev. & M. Co.	Silv. Bow Co, Mont.	Butte, Mont.	$1	$1.50	$2.00	10	$2.00	Sept. 20
Bald Butte	L. & Ci'ke Co., "	Helena "	1	3.00	3.50	200	3.25	" 20
Benton Group	Meagher Co. "	W. Sph. S. Mont	5	.....	.....	.....	.....	.....
Combination	" "	" "	10	.50	.75	.....	.....	.....
Elkhorn	Jefferson Co. "	London, Eng.	£1	5s. 6d.	6s. 6d.	.....	.....	.....
Hel'a & Frisco	Shoshone Co, Id.	Helena, Mont.	5	2.00	2.50	.....	.....	.....
Iron Mountain	Missoula Co., Mont.	" "	10	.60	.65	1,800	.65	.....
Ontario	DeerLodgeCo. "	" "	1	.75	1.00	.....	.....	.....
Piegan	L. & C. Co.,	M'rysville, "	5	.....	.....	.....	.....	.....
Royal Gold	D'r LodgeCo., Mont	D'r Lodge, "	5	.....	1.00	.....	.....	.....

* Special Report of Samuel K. Davis. Total shares sold, 2,100.

DULUTH, MINN.*

Week ending Oct. 12.

Name of Company.	Location.	Company's Office.	Par value.	Bid.	Ask.	Price
Adams Iron	St. Louis Co., Minn	Duluth, Minn	100	$5.00	.....	.....
Biwabik Mt. Iron	" " "	" "	100	21.0	$22.50	.....
Lake Superior Con	" " "	" "	100	16.00	18.00	$16.50
Mesabi Chief	" " "	" "	100	1.75	2.00	.....
Minnesota Iron	" " "	New York City	100	70.00	72.50	.....
Mountain Iron	" " "	Duluth, Minn.	100	62.00	68.00	66.00

* Official quotations Duluth Board of Trade.

SHANGHAI, CHINA.*

Sept. 6.

Name of Company.	Country.	No. of shares.	Value. Par.	Value. Paid up	Last dividend. Date.	Last dividend. Amount.	Price.
Jelebu Mg. & Trad	China	45,000	$5	$5	Oct., 1894	$0.25	Taels 2 63
Punjom Mg. Co., Ltd.	"	58,850	4	3¾	.....	.....	" 3.25
do. pref	"	26,5 9	1	1	.....	.....	" 1.02
Raub Australian G. Mg. Co.	"	200,000	£1	13s. 10d.	Dec., 1893	10¼d.	" 2.62
Sheridan Con. Mg. Co.	Colorado, U.S.	20,0 0	Taels 100	Taels 100	.....	.....	" 4.00

* Special Report of J. P. Bissett & Co. The prices quoted are in Shanghai taels.

LONDON.

Oct. 4.

Name of Company.	Country	Product.	Capital stock.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers.	Quotations. Sellers.
AMERICANS:				£ s. d.	s.d.		£ s. d.	£ s. d.
Alaska-Mexican	Alaska	Gold	£160,000	1 0 0	7 5	July, 189	2 0 0	2 5 0
Alaska Treadwell	" "	"	1,960,000	5 0 0	1 6	" "	5 12 6	5 17 6
De Lamar	Idaho	Gold & silver	500,000	1 0 0	1 0	Aug. "	1 2 0	1 3 0
Elkhorn	Montana	Silver	200,000	1 0 0	0 3	July "	4 9	5 3
Harquahala	Arizona	Gold	300,0 0	1 0 0	0 6	Oct. 1894	5 0	6 0
Holcomb Valley	California	"	140,400	5 0	.....	.....	1 9	2 3½
Jay Hawk	Montana	"	285,000	1 0 0	0 6	Dec., 1892	1 6	2 6
Montana	"	Gold & silver	660,000	1 0 0	0 3	Oct., 1895	10 0	10 6
New Guston	Colorado	Silver	110,000	1 0 0	1 0	" 1892	10 0	12 6
Palmarejo	Mexico	Gold & silver	800,000	1 0 0	.....	.....	1 4	2 3
Plumas-Eureka	Colorado	Gold	281,250	2 0 0	0 6	June, 1894	10 0	12 6
Poormans	Idaho	Gold & silver	240,000	5 0	.....	.....	4 0	4
Richmond	Nevada	G'ld, sil., le'd	270,000	5 0 0	1 0	Nov., 1894	1 0 0	1 5 0
Sierra Buttes	California	Gold	245,0 0	2 0 0	0 6	April, 1895	10 0	11 3
Springdale	Colorado	"	240,0 0	4 0	0 2	Aug., 1894	2 0	2 3
SOUTH AMERICANS:								
Colomb. Hydra'lic	Colombia	Gold	75,000	1 0 0	1 0	July, 1895	10 0	12 6
Frontino & Bolivia	"	"	140,000	1 0 0	1 0	Aug. "	1 5 0	1 7 6
Tolima, A shares	"	Silver	70,000	5 0 0	10 0	" "	7 15 0	8 5 0
" B	"	"	30,000	5 0 0	10 0	" "	6 0 0	6 10 0
COPPER STOCKS:								
Cape Copper	So. Africa	Copper	60,000	2 0 0	1 3	June, "	2 15 0	2 17 6
" pref.	"	"	150,000	2 0 0	1 3	" "	2 10 0	2 15 0
Copiapo	Chile	"	200,000	2 0 0	1 6	May "	2 0 0	2 2 6
Rio Tinto	Spain	"	3,240,000	10 0 0	4 0	July "	19 12 6	19 15 0
Tharsis	"	Sulpr & cop'r	1,250,000	2 0 0	4 0	May "	5 0 0	5 5 0
AUSTRALIANS.								
Bayley's Reward	Coolg'rdie	Gold	480,000	1 0 0	4 0	Dec., 1894	8 0	9 0
Broken Hill Prop'r.	N. S Wales	Silver	384,000	8 0	0	Sept., 1895	1 18 9	2 1 3
Mt. Morgan Gold	Qu'ns'land	Gold	875,000	17 6	6 0	" "	3 1 3	3 3 9
SOUTH AFRICANS:								
British S. Africa Co	So. Africa	Lands & Ex.	2,000,000	1 0 0	.....	.....	8 0 0	8 12 6
City & Suburban	Transvaal	Gold	85,000	4 0 0	1 0	June, 1895	6 7 6	6 12 6
Crown Reef	"	"	120,000	1 0 0	5 0	" "	11 2 6	11 7 6
De Beers Con	"	Diamonds	3,990,000	5 0 0	12 6	July, "	30 12 6	30 17 6
Durb'n-Roodepoort	"	Gold	135,000	0 0	3 0	Sept., "	8 5 0	8 10 0
Ferreira	"	"	90,000	1 0 0	3 0	" "	19 10 0	20 10 0
Geldenhuis Estate	"	"	240,500	1 0 0	6 0	" "	6 8 9	6 11 3
Jagersfontein	"	Diamonds	1,100,000	10 0 0	10 0	" 1894	10 17 6	11 2 6
Langlaagte Estate	"	Gold	470,000	1 0 0	5 0	June, 1895	6 16 3	6 18 9
New Primrose	"	"	278,750	1 0 0	5 0	" "	7 0	7 2 6
Robinson	"	"	2 750,000	5 0 0	5 0	July, "	10 15	11 0 0
Simmer & Jack	"	"	250,000	1 0 0	2 0	Aug. "	23 15	24 5 0

PARIS.

Week ending Oct. 4.

Name of Company.	Country.	Product.	Capital Stock.	Par value.	Divs. last year.	Prices. Op'ning.	Prices. Closing
			Francs.	Fr.	Fr	Fr.	Fr.
Aciéries de Creusot	France	Steel mfrs.	27,000,000	2,000	100.00	2,000.00	2,005.00
" " Firminy	"	"	3,000,000	500	85.00	1,670.00	1,605.00
" " Fives-Lille	"	"	12,000,000	500	35.00	675.00	675.00
" " la Marine	"	"	20,000,000	500	30.00	835.00	830.00
" " Longwy	"	"	.....	500	35.00	660.00	665.00
" " l'Horme	"	"	.....	500	.....	22.00	35.00
Aguas Tenidas	Spain	Iron pyrites	10,000,000	500	40.00	250.00	235.00
Anzin	France	Coal	.....	.....	200.00	4,300.00	4,290.00
Boleo	Lower Cal	Copper	.....	500	.....	1,382.0	1,380.00
Bruay	France	Coal	3,0 0,000	400	600.00	17,965.00	18,100.00
Callao	Venezuela	Gold	32,200,000	125	.....	16.00	16.00
Cape Copper	S. Africa	Copper	.....	50	1.50	73.12	74.37
Champ d'Or	"	Gold	.....	25	.....	87.50	85.00
Courrieres	France	Coal	60,000	500	150.00	4,200.00	4,165.00
De Beers Consolidated	S. Africa	Diamonds	98,750,000	125	15.63	802.50	770.00
Dombrowa	Russia	Coal	.....	500	.....	650.00	644.00
Dynamite Centrale	France	Explosives	.....	500	25.00	670.00	625.00
Huanchaca	Bolivia	Silver	.....	125	5.00	107.50	103.75
Kebao	Tonquin	Coal	.....	500	.....	350.00	350.00
Langlaagte Estate	S. Africa	Gold	11,750,000	25	11.25	178.75	165.00
Laurium	Greece	Zinc & lead	16,300,000	500	40.00	590.00	595.00
Malfidano	Italy	Zinc	12,500,000	500	52.50	940.00	916.00
Metaux, Cie. Fran. de	France	Metal d'lers.	25,000,000	500	37.50	335.00	346.00
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	40.00	785.00	780.00
Nickel	N. Caled'nia	Nickel	12,720,000	500	30.00	150.00	139.00
Penarroya	Spain	Coal, etc.	.....	500	52.50	1,240.00	1,225.00
Rebecca	Colo'do, U.S.	Gold	.....	.....	.....	32.50	35.00
Rio Tinto	Spain	Copper	81,250,000	250	8.00	458.75	510.00
Robinson	S. Africa	Gold	.....	125	12.50	283.75	280.00
Saint Elie	Fr. Guiana	"	4,000,000	25	.....	26.25	26.50
Salines de l'Est	France	Salt	.....	500	27.00	320.00	329.00
Tharsis	Spain	Copper	.....	50	6.2	125.00	130.00
Vieille Montagne	Belgium	Zinc	9,000,000	80	30.00	465.00	457.50

MEXICO.

Week ending Oct. 11.

Name of Company.	State.	No. of shares.	Last dividend.	Last assessment.	Prices. Opening.	Prices. Closing.
Amistad y Concordia	Hidalgo	9,600	$3.58	.....	$.5	$30
Angustias	Guanajuato	2,400	10.00	.....	1,280	1,380
Arevalo	Hidalgo	.....	10.00	.....	400	410
Asturiana y Anexas	Zacatecas	2,500	10.00	.....	400	400
Bartolome de Medina	Hidalgo	2,000	3.00	.....	320	330
Carmen	"	1,100	18.81	.....	920	900
Castellana	Tepic	2,448	3 01	.....	150	155
Cerro Colorado	Chihuahua	15,000	.....	$1.00	15	20
Cinco Senores	Guanajuato	2,000	30.00	.....	1,400	1,300
Concepcion y Anexas	S. Luis Potosi	2,700	.....	.....	350	325
El Oro	Guanajuato	500	.....	.....	120	125
Guadalupe	"	10,000	5.00	.....	255	250
Luz de Maravillas	Hidalgo	1,100	.....	.....	385	380
Pabellon	"	1,000	27 89	.....	300	300
Purisima de los Com.	Zacatecas	2,400	.....	.....	50	50
Real del Monte	Hidalgo	2,554	20.00	.....	1,500	1,500
Rosario y Anexas	Durango	4,800	.....	.....	125	130
San Francisco	Hidalgo	2,000	6.00	.....	540	520
S. Ped. Chalchihuites	"	1,000	2.00	.....	200	200
San Rafael y An	"	1,200	20.00	.....	2,000	2,000
do. free stock	"	1,200	20.00	.....	900	900
Sta. Maria de la Paz	S. Luis Potosi	2,400	.....	.....	650	820
Soledad	Hidalgo	960	30.00	.....	950	900
Sorpreso	"	960	5.00	.....	605	600
Trinidad	Guanajuato	2,000	8.00	.....	270	270
Tlauzingo	Puebla	2,400	.....	.....	45	50
Union	Hidalgo	2,000	7.00	.....	610	610
Zaragoza	"	1,100	.....	.....	50	30
Zomelahuacan (gold)	Vera Cruz	5,000	.....	.....	100	100
Zona Min. de Pozos	Guanajuato	2,400	.....	1.50	100	100

NOTE.—In most Mexican mining companies the shares have no fixed par value. The capital is formed of a certain number of shares, the total value not being named. Prices are in Mexican dollars.

VALPARAISO, CHILE.*

Week ending Aug. 31.

Name of Company.	Capital.	Share value. N'minal.	Share value. Paid up.	Last dividend.	Prices. Bid.	Prices. Asked.	Prices. Last sale
Arturo Prat	$3,900,000	$100	$100	0¼ per cent.	$38½	$39	$39
Caracoles	315,000	100	100	5 "	.....	50	.....
Descub. de Huantajaya	1,000,000	100	100	2 "	25	40	30
Huanchaca de Bolivia	8,0 0,000	100	100	4 "	82	85	79
Oruro	800,000	1,000	1,000	.....	375	390	400
S. Agustin de Huantajaya	1,500,000	100	100	2½ per cent.	50	55	52½
Todos Santos	2,0 0,000	100	100	0¾ "	23¾	24¼	24
Nitrate Cos:							
Agua Santa	5,000,000	500	500	6 "	163	165	163
Antofogasta	2,000,000	200	200	10 "	140	170	184
Union	3,0 0,000	200	100	3 "	61	63	61

* Special Report of Jackson Bros. Values are in Chilean pesos or dollars.

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Par val	Assessments Total Levied	Assessments Date and amount of last.			Dividends. Total paid.	Dividends. Date & amount of last.		
1	Adams, s. L.	Colo.	$1,500,000	150,000	$10	*	....	....	....	$687,500	Jan.	1892	.05
2	Alaska-Treadwell, g.	Ala'ska	5,000,000	200,000	25	*	....	....	....	2,224,000	Apr.	1895	.37½
3	Alice, s.	Mont.	10,000,000	400,000	25	*	....	....	....	975,000	Nov.	1891	.06¼
4	Amador, c.	Cal.	1,250,000	250,000	†	*	....	....	....	31,250	Aug.	1890	.12½
5	American, g.	Colo.	3,000,000	300,000	10	*	....	....	....	225,000	Mar.	1892	.05
6	American Belle, s. & c.	Colo.	2,000,000	400,000	5	*	....	....	....	50,000	Apr.	1891	.12½
7	Americ'n & Nettie, g. &	Colo.	....	300,000	....	....	....	....	....	175,000	Mar.	1892	.05
8	Atlantic, c.	Mich.	1,000,000	40,000	25	280,000	April	1875	$1.00	700,000	Feb.	1891	1.00
9	Avevle, g.	Colo.	1,000,000	1,000,000	1	*	....	....	....	20,000	Mar.	1892	.01
10	Aspen Mg. & S., s. L.	Colo.	2,000,000	200,000	10	....	....	....	....	900,000	July	1894	.10
11	Aurora, t.	Mich.	2,500,000	100,000	25	....	....	....	....	650,000	Feb.	1893	2.00
12	Bad er, s	Ont.	250,000	50,000	5	*	....	....	....	37,500	Mar.	1890	.25
13	Bald Butte	Mont	250,000	250,000	1	....	....	....	....	382,000	Jan.	1895	.05
14	Bangkok-C. Bell, c. & L	Colo.	600,000	600,000	1	....	....	....	....	95,510	Sept.	1895	.00½
15	Bates Hunter, s. g.	Colo.	1,000,000	1,000,000	1	....	....	....	....	67,500	Dec.	1891	.00½
16	Belden, F. E., m.	N. H.	500,000	100,000	5	*	....	....	....	155,113	Aug.	1895	.04
17	Belle Isle, s.	Nev.	10,000,000	100,000	100	280,271	Sept	1893	.10	300,000	Dec.	1879	.25
18	Belcher, s. g.	Nev.	10,400,000	104,000	100	3,262,900	Nov.	1893	.20	15,897,200	Apr.	1876	1.00
19	Bellevue, Idaho, s. L.	Idaho	1,250,000	125,000	10	120,000	Dec.	1889	.25	200,000	Jan.	1890	.10
20	Best Friend	Colo.	1,000,000	1,000,000	1	*	....	....	....	1,000,000	Feb.	1892	.01
21	Bi-Metallic, s. g.	Mont.	5,000,000	200,000	25	....	....	....	....	1,630,000	June	1893	.10
22	Bodie Con., g. L.	Cal.	10,000,000	100,000	100	714,990	July	1893	.15	1,677,572	Dec.	1894	.25
23	Boston & Mont., g.	Mont.	2,500,000	250,000	10	*	....	....	....	520,000	June	1896	.15
24	Boston & Mont., c. &	Mont.	3,750,000	125,000	25	*	....	....	....	2,475,000	May	1895	2.00
25	Brotherton, L.	Mich.	2,000,000	80,000	25	*	....	....	....	120,000	Mar.	1895	.50
26	Bulwer, G.	Cal.	10,000,000	100,000	10	155,000	July	1893	.15	190,000	Oct.	1892	.05¼
27	Bunker Hill & S. s. L.	Idaho	3,000,000	300,000	10	*	....	....	....	150,000	Oct.	1888	.06
28	Caledonia, s.	Dak.	10,000,000	100,000	100	505,000	May	1885	.15	192,000	Oct.	1890	.06¼
29	Calumet & Hecla c,	Mich.	4,500,000	100,000	25	1,200,000	....	....	....	43,350,000	Aug.	1895	5.00
30	Centen'l-Eureka, s. L.	Utah.	1,500,000	30,000	50	30,000	Mar.	1888	1.00	1,230,000	Sept.	1895	.50
31	Central, c.	Mich.	500,000	20,000	25	150,000	Oct.	1861	.65	1,970,000	Feb.	1891	1.00
32	Champion, g	Calif.	340,000	34,000	10	*	....	....	....	216,000	Aug.	1895	.10
33	Chrysolite, s. L.	Colo.	10,000,000	200,000	50	*	....	....	....	1,850,000	Dec	1884	.25
34	Coeur D'Alene, s. L.	Idaho	5,000,000	500,000	10	....	....	....	....	340,000	June	1893	.05
35	Colorado Central, s. L.	Colo.	2,700,000	275,000	10	*	....	....	....	502,561	Apr.	1893	.05
36	Commonwealth, s.	Nev.	10,000,000	100,000	100	200,000	Nov.	1893	.10	20,000	Nov.	1890	.20
37	Confidence, s. L.	Nev.	2,496,000	24,960	100	1,589,550	Aug.	1892	.50	277,688	Apr.	1889	1.00
38	Con. Cal. & Va., s. g	Nev.	21,600,000	216,000	100	216,000	Dec.	1892	.50	3,956,500	Mar	1895	.25
39	Contention, s.	Ariz.	12,500,000	250,000	50	*	....	....	....	2,687,500	Aug.	1892	.20
40	Cook's Peak, s.	N. M.	2,000,000	200,000	10	....	....	....	....	119,532	Nov	1892	.05
41	Cop. Queen Con., c.	Ariz.	2,000,000	200,000	10	....	....	....	....	1,910,000	June.	1895	.25
42	Coptis	Nev.	10,000,000	100,000	100	....	....	....	....	68,000	Feb.	1895	.01
43	Cortes, s.	Nev.	1,500,000	300,000	5	*	....	....	....	735,000	Feb.	1893	.15
44	Crescent, s. L. g.	Utah.	15,000,000	600,000	25	60,000	Oct.	1892	.10	288,000	Oct.	1888	.03
45	Crown Point, g. s.	Utah.	3,000,000	150,000	20	....	....	....	....	2,850,000	May	1895	.25
46	Daly, s. L.	Utah.	5,000,000	200,000	25	*	....	....	....	1,140,000	Sept.	1892	.05
47	†Deadwood-Terra, g.	Dak.	2,000,000	400,000	5	....	....	....	....	1,716,000	Aug.	1895	.36
48	De Lamar, g. s	Idaho	10,000,000	100,000	100	100,000	Sept.	1892	.10	260,000	Mar	1891	.05
49	Derbec B. Grav., g.	Cal.	1,000,000	100,000	10	*	....	....	....	24,000	July	1893	.05
50	Dexter, g. s	Nev.	1,000,000	200,000	5	*	....	....	....	1,324,689	May	1895	.12½
51	Elkhorn, s.	Mont.	1,000,000	100,000	10	....	....	....	....	60,000	Dec.	1894	.01
52	Elkton	Colo.	5,000,000	500,000	1	*	....	....	....	850,000	June.	1893	.25
53	Enterprise, s.	Colo.	2,500,000	500,000	5	....	....	....	....	9,375	Mar.	1895	.00¼
54	Eureka Con., s. L. g.	Nev.	1,000,000	50,000	20	550,000	June	1889	.50	5,112,500	Jan.	1892	.25
55	Eureka Hill, g. s. L.	Utah.	1,000,000	10,000	10	....	....	....	....	1,500,000	Jan.	1891	.04
56	Evening Star, s. L.	Colo.	300,000	30,000	10	....	....	....	....	1,437,500	Dec.	1889	.25
57	Father de Smet, g.	Dak.	10,000,000	100,000	100	200,000	Nov.	1878	1.00	1,125,000	Dec.	1885	.20
58	Franklin, c.	Mich.	1,000,000	40,000	25	320,000	June	1867	2.50	1,240,000	Jan.	1894	2.00
59	Glengarry	Mont.	1,000,000	100,000	10	....	....	....	....	10,000	June.	1891	10
60	Gold & Globe, G.	Colo.	750,000	750,000	1	....	....	....	....	9,375	Mar.	1895	.00¼
61	Gould & Curry, s. g.	Nev.	10,800,000	108,000	100	4,698,400	Oct.	1868	.10	3,826,800	Oct.	1870	10.00
62	Grand Prize, s.	Nev.	10,000,000	100,000	100	285,000	Jan.	1890	.30	495,000	Mar	1894	.25
63	Granite Mountain, s.	Mont.	10,000,000	400,000	25	....	....	....	....	12,120,000	July	1892	.20
64	Great Western, L. g.	Cal.	5,000,000	50,000	100	50,526	....	1889	.15	988,366	Nov	1893	.25
65	Hale & Norcross, g. s.	Nev.	11,200,000	112,000	100	5,646,800	June	1893	.50	1,822,000	Aug	1888	.50
66	Hecla Con., s. g. L. c.	Mont.	1,500,000	30,000	50	....	....	....	....	2,115,000	Aug.	1895	.50
67	Hel'a Mg. & Red, s. L. g.	Mont.	3,315,000	663,000	5	*	....	....	....	197,370	July.	1896	.06
68	Helena & Frisco, s. L.	Idaho	2,500,000	500,000	5	....	....	....	....	280,000	Feb.	892	.02
69	Helena & Victor	Mont.	1,000,000	200,000	5	....	....	....	....	80,000	May	1892	.05
70	¶ Holmes, s.	Nev.	10,000,000	100,000	100	345,000	Mar.	1890	.25	75,000	Apr	1892	.25
71	Homestake, g.	Dak.	12,500,000	125,000	100	200,000	July.	1878	1.00	5,587,500	Sept.	1895	.25
72	Hope, s.	Mont.	1,000,000	100,000	10	*	....	....	....	552,250	Jan	1895	.10
73	Horn-Silver, s. L.	Utah.	10,000,000	400,000	25	....	....	....	....	5,137,500	Apr.	1895	.12½
74	Idaho, s.	Cal.	310,000	3,100	100	....	....	....	....	5,400,000	Sept.	1893	2.50
75	Illinois, s.	N. M.	100,000	100,000	1	*	....	....	....	45,000	Apr.	1889	.20
76	Iron Mountain, s.	Mont.	5,000,000	500,000	10	*	....	....	....	385,000	Aug.	1895	.02
77	Iron-Silver, s. L.	Colo.	10,000,000	500,000	20	*	....	....	....	2,500,000	Apr.	1889	.20
78	Jackson, g. s.	Nev.	5,000,000	50,000	100	247,500	Mar.	1893	.20	83,000	Feb.	1895	.04
79	Kearsarge, c.	Mich.	1,000,000	40,000	25	190,000	Oct.	1887	1.00	80,000	Jan.	1890	2.00
80	Kennedy	Cal.	10,000,000	100,000	100	....	....	....	....	2,734,000	Aug.	1895	.40
81	Lake Superior, L.	Mich.	2,100,000	84,000	....	....	....	....	....	....	....	....	....
82	Leadville Con., s.	Colo.	4,000,000	400,000	10	*	....	....	....	516,000	Feb.	1893	.03
83	Lexington, g. s.	Mont.	4,000,000	40,000	100	*	....	....	....	652,200	July	1893	.90
84	Little Chief, s. L.	Colo.	10,000,000	200,000	50	*	....	....	....	820,000	Dec.	1890	.05
85	Maid of Erin	Colo.	3,000,000	600,000	5	*	....	....	....	705,900	Apr.	1895	.25
86	Mammoth, s. L. c.	Utah.	10,000,000	400,000	25	110,000	....	1882	.25	1,040,000	Dec.	1891	.10
87	Maxfield	Utah.	3,000,000	300,000	10	....	....	....	....	117,000	Apr.	1892	.03
88	Mayflower, g. gravel	Cal.	1,200,000	60,000	20	....	....	....	....	242,000	Aug.	1895	.10
89	Minas Prietas, g. s.	Mex.	1,000,000	100,000	10	*	....	....	....	350,000	Dec.	1890	.50
90	Minnesota, c.	Mich.	1,000,000	40,000	25	420,000	April	1886	1.00	1,820,000	Mar.	1876	....
91	Minnesota Iron, L.	Minn.	8,500,000	165,000	100	....	....	....	....	2,745,000	Apr.	1893	1.50
92	Mollie Gibson, s.	Colo.	5,000,000	1,000,000	5	19,500	Jan.	1891	.01	4,000,000	Jan.	1895	.10
93	Monitor, g.	S. Dak.	2,500,000	250,000	10	....	....	....	....	45,000	Oct	1890	.03
94	Moo, c.	Cal.	5,000,000	50,000	100	797,500	Feb.	1893	.25	12,500	Mar	1896	.25
95	Montana, Lt., g. s.	Mont.	3,300,000	660,000	5	*	....	....	....	2,701,575	Jan.	1895	12½
96	Moose	Colo.	600,000	600,000	1	....	....	....	....	72,000	Nov.	1894	.12
97	Morning Star, s. L.	Colo.	1,000,000	100,000	10	....	....	....	....	1,025,000	Dec	1891	.24
98	Morning Star Drift, g	Cal.	240,000	2,400	100	....	....	....	....	436,200	Sept.	1895	7.00
99	Moulton, s.	Mont.	2,000,000	400,000	5	*	....	....	....	460,000	July	1894	.05
100	Mt. Diablo, s.	Nev.	5,000,000	50,000	100	187,500	June	1880	2.00	225,000	Nov	1893	.30
101	Mt. Rosa, g	Colo.	1,000,000	1,000,000	1	....	....	....	....	10,000	Jan.	1895	.10
102	Napa, q.	Cal.	700,000	100,000	7	....	....	....	....	720,000	June.	1895	.20
103	Navajo, g. s.	Nev.	10,000,000	100,000	100	538,714	Sept.	1893	.10	226,111	Apr.	1889	.10
104	New Guston, s.	Colo.	550,000	110,000	5	....	....	....	....	1,877,500	Apr.	1892	.75
105	North Banner Con.	Cal.	1,000,000	100,000	10	....	....	....	....	20,000	July	1891	.05
106	North Commonw'th	Nev.	10,000,000	100,000	10	90,000	Jan.	1893	.10	25,000	June	1891	.25
107	N. Hoover Hill, g. s.	N. C.	300,000	120,000	2½	....	....	....	....	30,000	Dec.	1885	.06¼
108	North Belle Isle, s.	Nev.	10,000,000	100,000	100	513,075	April	1893	.10	230,000	May	1888	.50
109	North Star, g.	Cal.	1,000,000	100,000	10	20,000	....	1885	.02	450,000	June	1893	.50
110	Nugget, c.	....	1,000,000	1,000,000	1	....	....	....	....	10,000	Jan.	1895	.00¼
111	Ontario Con., g.	Cal.	2,400,000	24,000	100	....	....	....	....	97,500	July.	1894	.15
112	Ontario, s. L.	Utah	15,000,000	150,000	100	....	....	....	....	13,175,000	Oct.	1892	.50
113	Ophir, g. s.	Nev.	10,000,000	100,000	100	4,391,040	July	1893	.25	1,595,800	Jan	1880	1.00
114	Osceola, c.	Mich.	1,250,000	50,000	25	480,000	April	1876	1.60	1,947,500	June	1895	1.00
115	Pacific Coast, s.	Cal.	2,000,000	20,000	100	....	....	....	....	422,500	July	1893	1.00
116	Parrot, c.	Mont.	2,340,000	23,400	100	....	....	....	....	1,560,000	July	1893	.10
117	Peerless	Utah.	10,000,000	10,025	100	....	....	....	....	17,500	July.	1891	.75
118	Pharmacist, g.	Cal.	1,200,000	1,200,000	1	....	....	....	....	8,000	June.	1893	.01
119	Piumas Eureka, g.	Colo.	1,406,250	140,600	50	....	....	....	....	2,696,295	Oct.	1893	.18
120	Plymouth Con., g.	Cal.	5,000,000	100,000	50	*	....	....	....	2,280,000	Feb.	1888	.40
121	Poorman, g. s.	Idaho	375,000	300,000	1,25	*	....	....	....	68,260	Sept.	1892	.15
122	Portland, g.	Colo.	3,000,000	3,000,000	1	*	....	....	....	280,000	Sept.	1895	.05
123	Quicksilver, pref., q.	Cal.	4,300,000	43,000	0	....	....	....	....	1,323,911	June	1891	1.25
124	" com., q.	Cal.	5,700,000	57,000	100	....	....	....	....	643,867	July.	1882	.40
125	Quincy, c.	Mich.	1,250,000	50,000	105	200,000	Dec.	1862	....	7,691,000	Aug.	1895	4.00
126	Red Cloud	Idaho	1,000,000	200,000	25	....	....	....	....	153,000	Dec.	1892	.10
127	Retriever, L.	S. Dak	1,250,000	250,000	5	....	....	....	....	20,000	Aug.	1891	.03
128	Rialto, g.	Colo.	300,000	300,000	1	*	....	....	....	90,250	Apr.	1892	.01½
129	Richmond, s. L.	Nev.	1,350,000	54,000	5	*	....	....	....	4,386,780	Sept.	1893	.25
130	Rico-Aspen	Colo.	5,000,000	1,000,000	25	....	....	....	....	325,000	Nov.	1894	.02½
131	Ridge, c.	Mich.	1,250,000	50,000	5	219,939	Mar.	1886	50	99,785	Feb.	1880	.50
132	Robinson Con., s. L.	Colo.	10,000,000	200,000	50	*	....	....	....	585,000	Mar.	1886	.05
133	Savage, s.	Nev.	11,200,000	112,000	50	6,966,000	June	1893	.25	4,460,000	June	1893	3.00
134	Sierra Buttes, g.	Cal.	2,525,000	125,500	100	....	....	....	....	1,589,938	Oct.	1893	.12½
135	Sierra Nevada, s. g.	Nev.	10,000,000	100,000	10	6,521,910	Aug	1893	.20	102,000	Jan	1871	1.00
136	Silver Cord, s. L. g.	Colo.	5,000,000	500,000	100	....	....	....	....	270,000	Apr.	1889	.10
137	Silver King, s.	Utah.	10,000,000	100,000	10	97,479	Aug.	1892	.25	1,043,000	Aug.	1895	.25
138	Silver Mg. of L. V., s. L.	N. M.	500,000	500,000	101	....	....	....	....	300,000	Dec.	1891	4.05
139	Small Hopes Con., s.	Cal.	5,000,000	250,000	1	*	....	....	....	3,225,000	Oct.	1895	.10
140	Standard, g. s.	Cal.	10,000,000	100,000	20	100,000	June	1890	.50	3,771,159	June.	1895	.10
141	Swansea, g. s.	Colo.	690,000	60,000	100	....	....	....	....	39,000	Sept.	1892	.10
142	Tamarack, c.	Mich.	1,250,000	50,000	15	520,000	April	1885	3.00	4,270,000	June.	1894	4.00
143	Trinity River Hydr., g	Colo.	500,000	500,000	21	*	....	....	....	37,500	Apr.	1894	.00¾
144	Union	Colo.	1,750,000	1,250,000	1	....	....	....	....	27,740	May.	1895	.01
145	United Verde, c.	Ariz.	5,000,000	300,000	0	*	....	....	....	562,500	Dec	1893	.25
146	Victor, g	Colo.	1,000,000	200,000	15	....	....	....	....	385,000	Aug.	1895	.10
147	Victor L. & M. Co., g.	Colo.	600,000	600,000	1	....	....	....	....	6,900	June.	1895	.05
148	Wood Con., s.	Colo.	2,000,000	200,000	1	*	....	....	....	20,000	Dec.	1895	05
149	W. Y. O. D.	Cal.	60,000	30,000	2	22,500	May.	1891	.10	106,000	Aug.	1895	.10
150	Yankee Girl, t	Colo.	1,300,000	260,000	5	....	....	....	....	520,000	July	1891	.25
151	Yellow Jacket, g.	Nev.	12,000,000	120,000	100	....	July.	1893	.25	2,184,000	Aug.	1871	1.50

NON-DIVIDEND-PAYING MINES

	Name and Location of Company.		Capital Stock.	Shares. No.	Par	Assessments Total levied.	Assessments Date and am't of last.		
1	Ajax, g. s. L.	Utah.	$3,000,000	300,000	$10	$15,000	Mar.	1895	$2
2	Alliance, s. g.	Utah.	100,000	100,000	1	120,000	Feb.	1891	.10
3	Allouez, c.	Mich.	2,000,000	80,000	25	1,454,937	Oct.	1891	.20
4	Alpha Con., g. s.	Nev.	3,000,000	30,000	100	209,000	Sept.	1892	.10
5	Alta, s.	Nev.	10,080,000	100,800	100	3,369,880	Jan.	1892	.05
6	American Flag, s.	Colo.	1,250,000	125,000	1	300,000	June	1887	....
7	Anchor, s. L. g.	Utah.	3,000,000	150,000	5	560,000	July.	1893	.15
8	Barcelona, g.	Nev.	5,000,000	200,000	5	*	....	....	....
9	Belmont, g.	Cal.	500,000	500,000	100	*	....	....	....
10	Belmont, s.	Nev.	5,000,000	50,000	100	785,000	April	1884	.10
11	Best & Belcher, s. g.	Nev.	10,080,000	100,800	10	2,405,275	Aug.	1892	.25
12	Black Oak, g.	Cal.	3,000,000	300,000	100	*	....	....	....
13	Brownlow, g.	Colo.	250,000	250,000	5	....	....	....	....
14	Brunswick, g.	Cal.	2,000,000	400,000	2	....	....	....	....
15	Bullion, s. g.	Nev.	10,000,000	100,000	100	2,890,000	Aug.	1892	.25
16	Butte & Boston, c. s.	Mont.	5,000,000	200,000	10	....	....	....	....
17	Butte Queen, g.	Cal.	1,000,000	100,000	1	6,000	Jan.	1892	....
18	Calaveras, g.	Cal.	500,000	500,000	5	*	....	....	....
19	Calaveras Con., g.	Cal.	800,000	160,000	10	....	....	....	....
20	California, g. s. L.	Cal.	1,000,000	100,000	5	9,000	Mar.	1892	....
21	California Con. L. q.	Cal.	2,250,000	450,000	10	....	....	....	....
22	Challenge Con., g. s.	Nev.	5,000,000	50,000	10	....	....	....	....
23	Chollar, s. g.	Nev.	11,200,000	112,000	....	2,212,000	May.	1895	.5
24	Colchis, s. g.	N. M.	500,000	150,000	5	....	....	....	....
25	Colorado, s.	Colo.	1,625,000	325,000	1	....	....	....	....
26	Consol. Cal. & Va.	Utah.	1,250,000	250,000	100	....	....	....	....
27	Comstock Con., s.	Nev.	10,000,000	100,000	100	35,000	Mar.	1887	.10
28	Con. Imperial, g. s	Nev.	5,000,000	50,000	50	2,062,500	Jan.	1892	.25
29	Con. New York, s. g.	Nev.	5,000,000	100,000	100	110,000	Mar.	1892	.10
30	Con. Pacific, g.	Cal.	6,000,000	60,000	10	198,000	June	1890	.10
31	Crescent, s. L.	Colo.	3,000,000	300,000	100	*	....	....	....
32	Crocker, s.	Ariz.	10,000,000	100,000	1	165,000	Aug.	1892	.05
33	Crowell, s.	N. C.	500,000	500,000	1	....	....	....	....
34	Dahlonega, g.	Ga.	250,000	250,000	10	*	....	....	....
35	Decatur, s	Colo.	1,500,000	300,000	....	....	....	....	....
36	Denver City s.	Colo.	5,000,000	500,000	11	*	....	....	....
37	Denver Gold, g.	Colo.	300,000	60,000	5	....	....	....	....
38	Dickens-Custer, s.	Idaho	1,250,000	420,000	5	....	....	....	....
39	Durango, c.	Colo.	500,000	500,000	1	*	....	....	....
40	El Dorado, s.	Cal.	1,000,000	250,000	4	*	....	....	....
41	Emma, s	Utah.	625,000	500,000	125	....	....	....	....
42	Emmons, s. L.	Colo.	2,000,000	2,000,000	1	....	....	....	....
43	Empire, s.	Utah.	10,000,000	100,000	100	*	....	....	....
44	Eureka Tunnel, s. L.	Nev.	10,000,000	100,000	100	*	....	....	....
45	Exchequer, s. g.	Nev.	10,000,000	100,000	100	940,000	Jan.	1892	.25
46	Found Treasure, g. s.	Nev.	10,000,000	100,000	100	130,500	Jan.	1892	.50
47	Gogebic I. Syn., I. s.	Wis.	5,600,000	200,000	25	*	....	....	....
48	Gold Cup, s.	Colo.	500,000	500,000	1	*	....	....	....
49	Golden Era, s.	Mont.	1,000,000	200,000	10	*	....	....	....
50	Gold Flat, g.	Cal.	1,000,000	100,000	10	5,000	Mar.	1892	.05
51	Gold Rock, g.	Cal.	1,000,000	500,000	2	....	....	....	....
52	Golden Feather Ch., g	Cal.	900,000	180,000	5	....	....	....	....
53	Goodyear g. s. L.	Mont.	1,000,000	200,000	5	13,000	Feb.	1892	.01
54	Grand Duke, s.	Colo.	800,000	80,000	10	....	....	....	....
55	Gregory Con., g.	Mont.	3,000,000	300,000	10	....	....	....	....
56	Harlem M. & M. Co., g.	Cal.	1,000,000	200,000	5	....	....	....	....
57	Hartery Con., g.	Cal.	1,000,000	100,000	10	22,000	Oct.	1890	.05
58	Hartshorn, g. s. L.	S. Dak	1,250,000	250,000	5	8,750	Sept.	1891	.00¾
59	Head Cent. & Tr., s. g	Ariz.	10,000,000	100,000	100	16,981	Mar.	1892	.08
60	Hector, g.	Cal.	1,500,000	300,000	5	45,000	Jan.	1889	.15
61	Himalaya, g. s. L.	Utah.	1,800,000	80,000	10	12,800	Oct.	1892	.00¾
62	Holywood	Cal.	200,000	100,000	2	....	....	....	....
63	Huron, c.	Mich.	1,000,000	40,000	25	280,000	May.	1887	3.00
64	Idaho, g. s.	Idaho	1,250,000	250,000	5	....	....	....	....
65	Ingalls, g	Colo.	100,000	20,000	5	....	....	....	....
66	Ironton, I.	Wis.	1,000,000	40,000	25	....	....	....	....
67	Iroquois, c.	Mich.	1,250,000	50,000	25	....	....	....	....
68	Kentuck Con.	Nev.	10,500,000	105,000	60	57,750	July	1892	.10
69	Julia Con., g. s.	Nev.	11,000,000	110,000	100	1,463,000	Jan.	1889	.10
70	Justice, g. s. c.	Colo.	500,000	500,000	1	*	....	....	....
71	Lacrosse, g.	Colo.	1,000,000	100,000	10	*	....	....	....
72	Little Josephine, s.	Colo.	250,000	50,000	5	....	....	....	....
73	Little Pittsburg, g. s.	Utah.	4,000,000	400,000	10	4,000	Mar.	1892	....
74	Lone Star Cons., g.	Cal.	500,000	500,000	1	10,000	April	1892	.2
75	Madeleine, g. s. L.	Colo.	750,000	50,000	1	4,500	Feb.	1892	.0¾
76	Mammoth Gold, g.	Ariz.	2,500,000	500,000	5	*	....	....	....
77	Mayflower Gravel, g.	Cal.	1,000,000	100,000	10	*	....	....	....
78	Mexican, g. s.	Nev.	10,000,000	100,000	100	2,917,560	Oct.	1892	.50
79	Michigan, g. s	Mich.	2,500,000	100,000	25	40,000	Mar.	1892	.....
80	Mike & Starr, s. c.	Colo.	1,000,000	200,000	5	*	....	....	....
81	Milwaukee, c.	Mont.	500,000	500,000	1	*	....	....	....
82	Modoc Chief, I. s. g.	Idaho	1,000,000	200,000	5	5,000	Jan.	1892	.00¾
83	Monitor, g.	Colo.	100,000	100,000	1	12,500	May.	1891	.01
84	Montreal, g. s. L.	Utah.	750,000	150,000	5	4,500	Feb.	1892	.00¾
85	Mutual Mg. & Sm.	W'sh.	100,000	100,000	1	*	....	....	....
86	Neath, G.